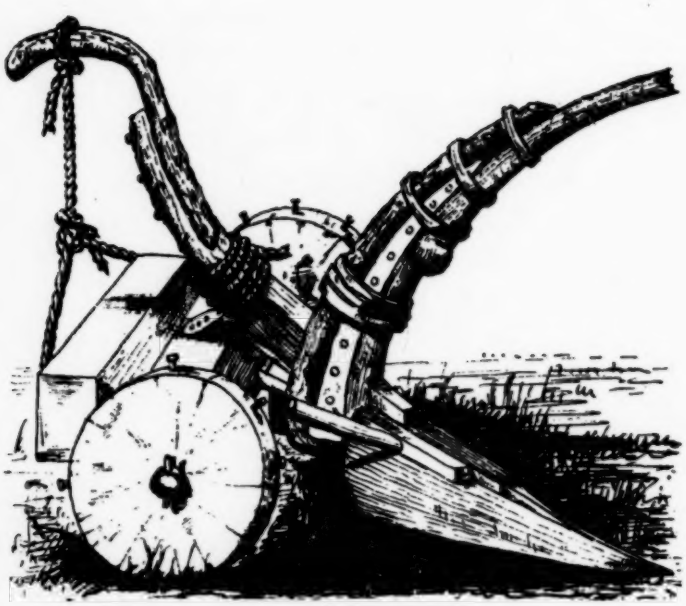
AGRICULTURAL HISTORY

Volume 33, No. 2 April, 1959



Published Quarterly

by

THE AGRICULTURAL HISTORY SOCIETY

DENVER MEETINGS

APRIL 23-24, 1959

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Thursday, April 23, 2:30 P.M.

Empire Room, Cosmopolitan Hotel

Joint Session of the Mississippi Valley Historical Association and the Agricultural History Society

AMERICAN RURAL LIFE IN REVIEW

Chairman: C. Clyde Jones, University of Illinois

"Social Theory and the Frontier"
Allan G. Bogue, State University of Iowa

"The American Impressions of a French Botanist, 1873"
Dwight W. Morrow, Jr., Lincoln University

"Theodore Roosevelt's Country Life Commission"
Clayton Ellswoth, Wooster College

★ ★ ★

Friday, April 24, 12:30 P.M.

Club Room, Cosmopolitan Hotel

Luncheon Sponsored by Agricultural History Society
Presiding: Lewis E. Atherton, University of Missouri

"The Genesis of an Agricultural Experiment Station"
Vernon Carstensen, University of Wisconsin

★ ★ ★

The annual Business Meeting of the Society will be held at the conclusion of the luncheon.

AGRICULTURAL HISTORY

A Publication of the Agricultural History Society Edited at the UNIVERSITY OF ILLINOIS

C. Clyde Jones, Editor

Vol. XXXIII, No. 2 April, 1959

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(Cover design is a late Middle Ages Italian seeder, reproduced from a U. S. Patent Office drawing.)

THE AGRICULTURAL HISTORY SOCIETY

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AGRICULTURAL HISTORY

The Quarterly Journal of the Agricultural History Society

Agricultural History is designed as a medium for the publication of research and documents pertaining to the history of agriculture in all its phases and as a clearing-house for information of interest and value to workers in the field. Materials on the history of agriculture in all countries are included, and also materials on institutions, organizations, and sciences which have been factors in agricultural development. The Society is not responsible for the statements or opinions of contributors. Editorial communications and books for review should be sent to C. Clyde Jones, Editor, Room 214, David Kinley Hall, University of Illinois, Urbana, Illinois.

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Agricultural History is published for the Agricultural History Society at the Garrard Press, 510-522 North Hickory Street, Champaign, Illinois.

Entered as second-class matter in the Post Office at Champaign, Illinois.

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Development of Government Data Systems in American Agriculture•

WALTER H. EBLING

The term "statistics" has been defined as something "made to prove anything—even the truth."[1] Because "statistics" has come to have various meanings, the word "data" is being used more and more in referring to numerical values which, in lay language, are "statistics." The term "data" also avoids the more sophisticated meaning of "statistics," that is, when the word is used to mean techniques or methodology, usually mathematical.

As agriculture has become more complex and more widely studied, data have come to play a larger role. What people know or think they know about agriculture is often a reflection of the various numerical values that have become generally available. We commonly take these numerical values for granted,[2] much as we do other data that are regularly offered through various government services including those on weather. The data quantify situations and enable the mind to grasp them more readily; hence, a good deal of what we remember about the economy is often in numerical values even though they may be only approximate.

The early American economy was mainly one of agriculture. City employment and industry were only a small part of the total, perhaps one-tenth. Then indeed farming was the way of life for most people, and production for home use was a big part of it. Even so, some farm products were sold for local use and also for export, but the commercial agriculture as we now know it was still to develop; the need for providing data on agriculture as a government function came along only as agricultural problems or difficulties became great enough to be widely recognized.

Production and marketing decisions by farmers were less complex than they have since become. A farmer could watch what went on in his neighborhood and probably see a pattern which, if followed, would take care of most of his needs and leave something that could be sold or exchanged. Decisions were made largely in response to home needs and local markets with only minimum attention to the national economy. Gradually, however, as the country developed and cities grew, a smaller portion of the people were on farms and markets became more important to both producers and consumers; products for sale rather than home use became a larger part of farm output. This trend has continued and in our present commercial agriculture, competition in production is often nationwide and even world wide.

Another issue was the fact that as the United States frontier and people moved westward they occupied more fertile lands in the interior and when farm production became established on these lands, the volume of farm products grew rapidly. As these products moved eastward to market, the competition hurt the producers in the older areas; prices of farm products often became unsatisfactory to the local farmers and they experienced years of hard times. My old Professor, B. H. Hibbard, used to say that so far as agricultural production was concerned, the only reason New England and some of the other Eastern areas were ever settled was the fact that they were "in the way" as white men took over North America. However, these problems brought a demand for information which took several forms.

In American agriculture the data systems that describe the universe either in terms of magnitudes or in terms of changes have been developed mainly around issues of public concern. One can classify the systems which provide most of our basic numerical values in agriculture into three groups: (1) Static data systems which produce relatively permanent data such as the land system and

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• This paper was read as the Presidential Address at the annual luncheon meeting of the Agricultural History Society in Minneapolis, Minnesota, in April, 1958.

[1] Evan Esar, *Comic Dictionary* (New York, 1943), 265.

[2] O. V. Wells, "Agricultural Statistics as an Aid to Research, Service, and Administration," *Journal of Farm Economics*, 32: 858 (November 1950).

other surveys built upon it, all of which are based on some form of physical or objective measurement that can be recorded in maps and tables. (2) Semi-static (or semi-dynamic data systems) which provide data renewable at long intervals such as the ten-year and other Census enumerations. These data are obtained almost wholly from people's knowledge by enumerators who ask questions, and they presumably enumerate an entire population or universe. Here the data are subjective, that is, they come from the minds of people and collection is limited to what people know or will tell to an enumerator. (3) Dynamic data systems which provide short-time data or those which are renewable at short intervals mainly by sampling with mailed questionnaires or otherwise, such as current data on crops, livestock, prices and market reports at intervals such as days, months, quarters, etc. These samplings get mainly subjective data from the knowledge and judgment of people and are used largely to measure short-time changes often from bench marks established by the Census enumerations or by other means at longer intervals.

The three broad types have a degree of interdependence, with the first, or the static data systems, being most independent. The latter two are dependent upon the first and to an even greater extent upon each other. The dependence increases on an ascending scale and the third or dynamic group is heavily dependent on the second for its base numbers or bench marks.

The Land System and Agricultural Data. In much of the world, land areas are complex and it is often difficult to know them accurately. When land areas are not well known, acreage and production of crops, pasture areas, and other items also may not be easily known. Whether reports are made to a Census taker or to the Department of Agriculture, the numbers reported are likely to be no better than the information of the respondent.

In colonial times and in the early history after independence, questions of land measurement, description and conveyance were important. Surveyors were often persons of prominence and we need to look only to George Washington's early life to see an example. It is perhaps unlikely that those who surveyed land in our early history were aware that they were developing what was to become a great body of durable data descriptive of the physical universe on which much else has since grown. The rectangular land system especially has provided a major body of independent data as well as a basis upon which other systems have been built. It is so commonplace in our Midwestern background that its influence is easily overlooked.

The origins of the American rectangular land system were partly found in colonial experience but also partly in Europe, mainly England; and the English experience had borrowed from others, notably the Romans. The English acre which was supposed to be the amount of land that could be plowed by a team of horses in a day, 220 by 22 yards, became our unit of area measurement. Also the idea of laying out land units in straight lines and squares was tried in a small way in a few older countries, although it was not generally used.

After the American Revolution when the young nation found itself with vast areas of wild land and an empty Treasury with many claims for money, it was natural for our forefathers to begin to look for ways of converting the land resources of the public domain into funds for the Treasury. The sale of land to raise revenue became a first objective and to expedite this the rectangular land system had the opportunity to develop. It never worked well from the standpoint of bringing money into the Federal Treasury, but it has profoundly influenced our agriculture, as well as the data we have about it and even our ways of communication and farm life. Thomas Jefferson's committee,[3] which had so much to do with the final approval of this system, probably did not think of it in terms of a data system but rather as a means of "packaging" land into parcels that could be accurately described and readily sold. There were proposals and experiments for various sizes of townships and finally one that was 6 miles square and divided into 36 square mile sections was adopted.[4]

[3] L. O. Stewart, *Public Land Surveys* (Ames, Iowa, 1935), 7f.
[4] *Ibid.*

The public land survey took a long time to complete, but it has influenced profoundly much that followed. To begin with under the older metes and bounds system areas usually were not accurately known. Even as late as 1839 Archibald Russell[5] stated that the area of New Jersey was imperfectly known and estimated variously from 4,384,000 acres to 5,324,800 acres, a difference of over one-fifth. With such discrepancies existing in the knowledge of areas in the older states and older countries, the more regular layouts and more accurate land measurements in states where the rectangular system was applied were a major improvement. Today we can say[6] that Richfield township has 23,146.15 acres of land or that Washington County, Wisconsin, has 274,924.40 acres of land and be quite sure that the error in the figures is small. We take for granted now that areas of our subdivisions in places under the rectangular land survey are quite accurately established, but this is less likely to be so in other places.

Not only does the land system provide us with a body of data on land areas and description but it has become basic to other systems which developed later. The Soil Surveys, Geological Survey, Land Inventory and Land Cover Mapping and even the rather recent air photographs are superimposed and used as an overlay on the land system. Tabulations of various kinds such as areas of soils, foerst cover, vegetative types, crops and land use are thus based on the land survey and their accuracy is largely dependent on it.

It is well known that in addition to making the work of other data systems easier and more accurate, the land layout also has affected farming operations by causing rectangular fields even where this violates good land management and straight roads where they violate geographic good sense. It has also dispersed farm people and their dwellings, schools, and other services, often making them more costly than if people were less dispersed. But because people on farms know boundaries, field sizes and crop acreages where the rectangular land survey exists, both census taking and agricultural sampling are facilitated. In speaking of the rectangular land system, those who work with data in agriculture can well agree with Payson Jackson Treat who said,

> Too much credit cannot be given to the men who framed and adopted this measure, for, though of little immediate usefulness and later ignored for a season, it proved to be one of the wisest and most influential, if not the wisest and most influential, of all the acts of the Revolutionary period.[7]

Agricultural Data in the United States Census. When provision was made in the United States Constitution for the taking of a Census, it was solely a matter of counting the population. Article I, Section 3 of the Constitution reads

> Representatives and direct taxes shall be apportioned among the several states which may be included within this Union according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to service . . . and excluding Indians not taxed, three-fifths of all other persons. The actual enumeration shall be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years, in such manner as they shall by law direct.

It is not always appreciated that the provision for a census in the Constitution was wholly for political reasons and that there is no evidence that the inclusion of data other than population was foreseen by those who wrote the document. While the data on population were soon wanted in more detail, it was not until the Census of 1810 that questions on manufactures were added and these were repeated in 1820. The first attempts to collect data on manufactures in the Censuses of 1810 and 1820 were so unsuccessful that in 1830 nothing was attempted beyond more detail on population. Archibald Russell reported[8] that the results of these early enumerations on manufactures were so poor that those for 1810 were published only after extensive reworking and the data collected for 1820 were never tabulated at all.[9]

The decade after 1830, however, brought new pressures to increase the scope of the Census by including other data. The history of this can only be partly given here. It seems, however, that with the new compe-

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[5] Archibald Russell, *Principles of Statistical Inquiry as Illustrated in Proposals for Urging an Examination into the Resources of the United States with the Census to Be Taken in 1840* (New York, 1839), 109.

[6] *Wisconsin Blue Book* (Madison, 1935), 680.

[7] Payson Jackson Treat, *The Land System*, quoted by Stewart, *Public Land Surveys*, 1.

[8] Russell, *Principles of Statistical Inquiry*, 23.

[9] *Ibid.*, 24.

tition in agriculture from Western production and low prices for farm products there was much dissatisfaction on the part of the farm producers. It seems too that organizations such as agricultural societies developed spokesmen for the industry. At any rate in the message of President Van Buren to the Congress on December 4, 1838, the suggestion was made that the 1840 Census might include other matters than population.[10] Since President Van Buren had been Secretary of State when the Fifth U. S. Census was taken in 1830, he therefore had had charge of that Census, and it is easy to see how he might respond to pleas to have the 1840 Census expanded to include data in areas other than population.

Agriculture was one of the things to be inquired into as set forth in Archibald Russell's book of 1839. Actually the paragraph in the President's message reads as though Russell might have helped to write it. At any rate Russell's preface points out that the volume was written to acquaint the public with proposed new Census issues of which agriculture was one. As a result the Census of 1840 included for the first time a series of 37 questions on agriculture. While these did not go nearly as far as Russell had suggested, they nevertheless undertook to enumerate livestock and the production in 1839 of major crops and livestock products.[11] That the enumeration in 1840 turned out to be unsatisfactory is not surprising when it is noted that there were no formal schedules provided for enumerating either population or other items, even though Russell's book in 1839 had suggested them. The United States marshals were merely instructed what to enumerate and were left largely to their own devices as to how to do the enumerating and summarizing. There was much dissatisfaction with the results obtained by the 1840 enumeration, not only for agriculture but also for other items.[12]

The plea for more data in 1840 was mainly one for an inventory of resources as set forth in the title of Russell's book, but since the Census was by Constitutional provision to be taken every 10 years, the inclusion of economic inquiries automatically brought in the concept of data repeated at intervals and hence the idea of measuring change through time. One gets the impression, however, that the "time" factor was secondary to the idea of an "inventory of resources."

It will be recalled that the static data systems, i.e., those dependent on physical measurement and recording of physical facts and descriptions, are essentially timeless. Even though they may be redone as newer methods make it possible to do the work with greater precision, they are not usually thought of as being repeated. So the introduction of the time factor on non-population items with a ten-year interval in the sixth Census was a new feature.

In spite of imperfections, the 1840 enumeration provided the first data on various agricultural items both in terms of the nation's total and also geographic distributions by states and territories. Whether one looks at this attempt of 1840 as the end of an old era or the beginning of a new one is perhaps unimportant. A beginning had been made in the periodic collection of agricultural data by the Census and by 1850 formal questionnaires for individual farms were printed and put into the hands of the marshals so that a more complete and accurate job could be done. Altogether 46 items were carried in the 1850[13] schedule and we had an implied definition of a farm in that the marshals were told to omit all places on which agricultural production had a value of less than $100. The definition of a farm has been repeatedly modified and it is still a controversial issue. We count farms but have difficulty in agreeing on a farm definition. The fact that a printed questionnaire with 46 items was supposed to be filled out for each farm in 1850 meant that we had found a system by which a long series of greatly enlarged agricultural censuses record the

[10] The paragraph from President Van Buren's message reads as follows: "In recommending to Congress the adoption of the necessary provisions at this session for taking the next census or enumeration of the inhabitants of the United States, the suggestion presents itself whether the scope of the measure might not be usefully extended by causing it to embrace authentic statistical returns of the great interest specially entrusted to, or necessarily affected by, the legislation of Congress." *The Congressional Globe* (December 4, 1838), 6.

[11] C. D. Wright and W. C. Hunt, *History and Growth of the U. S. Census, 1790-1890* (Washington, 1900), 233-235.

[12] *Ibid.*

[13] *Ibid.*

magnitudes and the geographic patterns and also the long-term growth of American agriculture at ten-year intervals.

While the expensive process of complete enumeration has been used only to provide agricultural data at long intervals, the inventory numbers for census years have from the beginning also served the important purpose of providing bench marks or base numbers from which short-time changes could be estimated from samples. This feature of census work has made possible current estimating from samples which provide short-run data of many kinds.

Since the early efforts, census taking in agriculture has been greatly revised and improved. Printed schedules of questions on agriculture were filled in in conjunction with the regular population Census taken at ten-year intervals for each decade beginning with 1850, there having been no printed forms for 1840. Following World War I, however, a Census of Agriculture was taken mid-way between the population Censuses and this has been added to the pattern. Four of these quinquennial Censuses have been taken—1925, 1935, 1945, 1954.

The old pattern of filling in the agricultural questionnaires along with the population Census is being modified now in the plans for the Census of 1960. In 1959 a Census of Agriculture will be taken separately, starting in October in the Northern states; the population Census will be taken in April of 1960. This new separation of the Census of Agriculture from the population enumeration may well mean important changes in the future.

Current Data in Agriculture. While short run or dynamic data on agriculture developed later than other systems, their roots also run back to the period before 1840 when there were pressures on the Census to include economic data. Mr. H. L. Ellsworth, Commissioner of the U. S. Patent Office, was greatly interested in agriculture and his annual report for 1837 and later ones show this.[14]

This interest in agriculture on the part of the Commissioner of Patents resulted in an appropriation in 1839 of $1,000 to the Patent Office for agricultural statistics and other purposes.[15] This appropriation was made by the same Congress that made provision for the enlarged Census of 1840. That Commissioner Ellsworth used the new funds for various agricultural purposes including statistics is also shown by his later reports. In the one for 1841[16] he showed estimates of crop production, animal numbers, etc., by states and territories for the year 1841. Obviously these were estimates projected from the Census of 1840. Apparently, he wrote to people in the states and territories and got a basis for judgment as to the change in population and agricultural production. Looking back that distance, this adventure appears to be a remarkable undertaking and it gives us the first attempt to provide annual agricultural data by geographic divisions projected from Census bench marks. How he could be so precise as to report for Wisconsin 25 pounds of silk worm cocoons in 1841 while he had 376 pounds for Michigan and 2,345 pounds for Illinois, we will probably never know. For a short time, Ellsworth shortened the period between data compilations to one year. He continued his interest in this area of work until he resigned as Commissioner of Patents in 1845.

While Ellsworth had an appropriation of $1,000 annually for this work, he used very little of it. His report for 1841 showed an item of only $125 for agricultural statistics and seeds.[17]

Since his successor did not have the same interest in agriculture as Ellsworth, the statistical work he had undertaken following the Census of 1840 was discontinued with his departure from the Patent Office. Ellsworth's successor suggested, however, that this work might be done in the states through the tax assessors.[18] The practice of making annual estimates of agricultural production based on Census bench marks was not resumed by the Government until after the U. S. Department of Agriculture was organized in 1862. In fact, the government did very

[14] House Document No. 112, 25th Congress, 2nd Session, 5-6.
[15] U.S.D.A., Miscellaneous Publication No. 171, 3.
[16] Senate Document No. 169, 27th Congress, 2nd Session, February 1842, 7-10.
[17] *Ibid.*, 6.
[18] House of Representatives Document, No. 140 (February 24, 1846).

little work with agricultural statistics between 1846 and 1862, except that of the census.

In the meantime, however, some important things occurred. One of these was the growth of agricultural societies, some of which took an interest in providing current seasonal information on crop prospects to their members. James T. Earl, President of the Maryland Agricultural Society, tried to collect crop information by correspondence from other agricultural societies and thus assemble current information on the season's prospects[19] for the members of his own society. There emerged from this period the idea that there was a need for seasonal information, perhaps a recognition of the fact that producers in the entire country are competitive and that in order to know what to produce and when to market, a farmer needed to know the situation in other producing areas as well as his own.

That this sort of interest was widespread is evident by the fact that in 1862 Orange Judd, Editor of the *American Agriculturist*, a farm paper published in New York, undertook to collect monthly information on crops from his readers and to publish the results of his surveys. Judd asked his subscribers to send in monthly crop reports for the five-month period from May through September, 1862. He published his questions and proposed to publish the summaries of these reports monthly so that current information on crop prospects might be widely available to farmers. In March, 1862 he wrote,

> It is well known that in this country we have no public system of gathering from year to year and at different times in the year, the statistics of the condition and probable yield of our growing crops. This work should be done by the general government, but at present it is not, nor is it likely to be for a year or two at least.[20]

Clearly, Judd saw the disadvantage of farmers from a standpoint of their lack of knowledge of market supplies and market information; in those Civil War years of rising prices and speculation, this was a serious matter. He urged his subscribers to cooperate in supplying the desired information. He made repeated pleas for additional reports and in June, 1862 published in tabular form the returns from 973 reporters in 21 states.[21]

Judd was obviously conscious of performing an important public service and he indicated that farmers, societies, and clubs took hold of the matter and cooperated effectively. The largest number of reports in any one tabulation published by Judd in his paper was 1,957 for July, 1862. Judd found this to be a big undertaking and foresaw the need for the Federal Government to take over this work. This was accomplished with the organization of the U. S. Department of Agriculture in 1862. The Department issued the first of a series of monthly crop and other reports in July, 1863. These have been greatly improved and are a feature of the Department's work today. They have provided monthly and annual data on condition, production, prices, and other data on crops and livestock, as well as other items of concern to agriculture for the nation as a whole and also much of it by states, using mainly mailed questionnaires to get the current information from groups of voluntary correspondents.

So the development of dynamic or short-time data in agriculture made great headway during the Civil War. At first the reports were only issued monthly during the growing season, but gradually the work grew to where the reports were made monthly for the entire year. By 1872 the Department of Agriculture had 3,000 correspondents and by 1882 when a reorganization took place its appropriation was raised to $80,000.[22] From this point on there was a gradual growth on the part of government work in providing current data on agriculture in the form of monthly and other reports on the condition of crops, yield per acre, and production of important items as well as data on livestock and annual prices of farm products. The bulk of the data have continued to come from voluntary reporters who report by mail and serve as observers for the Department. From time to time specialists were brought into the service to make field examination of crops and to interpret the data collected from regular sources. In 1905 the Crop Reporting Board of the Department of Agriculture was organized and it has continued to function

[19] U.S.D.A., Miscellaneous Publication No. 171, 3.
[20] *American Agriculturist* (June 1862), 186.
[21] *Ibid.*
[22] Charles H. Greathouse, U. S. Dept. of Agriculture, Bulletin 3, Second Revision (1907), 15-18.

to the present time. Forecasts of important crops before harvest have been made since 1912.

A beginning in reporting monthly prices of farm products was made in 1908.[23] Up to 1914 almost all of this work was handled in the Department of Agriculture in Washington, but in that year state agents were appointed and they began to collect data and interpret them in state offices. This paved the way for new advances in reporting short-time data on agriculture and today the bulk of the work is done in state offices. Summaries are forwarded to Washington where they are reviewed and organized into national reports. This decentralization of the data work probably was a part of a general movement whereby other work in agriculture was decentralized or expanded in states and counties. The development of Agricultural Extension based on the Smith Lever Act of 1914 was also a part of this movement.

Federal-State Cooperation. The establishment of state agricultural statistics offices by the U. S. Department of Agriculture opened the way for new services and an increased demand for *local* data on agriculture. When these state offices were but a few years old, the nation found itself in World War I and out of this period grew new requirements for data on crops and livestock. It was under the pressure of wartime demands that the first cooperative agreement for this service was entered into for the state of Wisconsin by C. P. Norgord, Commissioner of Agriculture, and W. F. Callendar, Agricultural Statistician for Wisconsin, in 1917 under the U. S. Secretary of Agriculture.[24] This new cooperative arrangement made possible the serving of both state and federal agencies with the same data and sources and this effort was so successful that the idea spread rapidly across the nation. Most of the states have established some kind of cooperative arrangement with the Federal Government for data collection.

States have long had an interest in agricultural statistics. As was suggested by the Commissioner of Patents in 1846, in some places state assessors came to be used for the collection of annual agricultural data. At present 14 states each year supply data, mainly acreage, by this method.[25] The earliest of these was Indiana which began in 1852; the most recent to adopt this program was Illinois in 1937. World War I brought the biggest numbers of states into the assessors program when in a two-year period, 1917 to 1919, Wisconsin, North Carolina, South Dakota, Colorado, and Missouri established such work. In addition to the enumeration of crops and other items through state assessors, most states now support other parts of the work. These include laws for the collection of data from licensed dairy plants and other processing agencies, thus making possible the use of state police power for collecting data needed by both state and federal agencies. This cooperative collection of current agricultural data provides over 500 reports yearly by the Department of Agriculture. Without some kind of enumerated or other bench mark data, however, it is still not possible to estimate all items satisfactorily. But the progress made in the United States in combining the various systems so as to provide needed national, state, and local data for commercial agriculture and elaborate government programs has resulted in a pattern that has had world-wide attention and study. The mailed sampling system of the Department of Agriculture, in cooperation with the states, performs an impressive volume of current work cheaply, rapidly and dependably.

[23] U.S.D.A., Miscellaneous Publication No. 171.

[24] Walter H. Ebling, "Why the Government Entered the Field of Crop Reporting and Forecasting," *Journal of Farm Economics*, 21: 731 (November 1939).

[25] U.S.D.A., Miscellaneous Publication No. 703, 135f.

The History of the Rural Seigneury in Italy, 751-1200

David Herlihy

The agrarian history of medieval Italy has been, for economic historians, a comparatively neglected field.[1] In vying for scholarly attention, Italy's precocious towns, vigorous merchants, far-flung trade and flourishing industries have had the advantage, understandably enough, over the more prosaic doings of the countryside. Yet, for research into those doings, Italy's magnificent archives offer materials in some ways unique in Europe. They are unique even in respect to that most fascinating problem of medieval agrarian history: the history of the manor.

North of the Alps our knowledge of the manor (or, to resort to its continental name, the rural seigneury) is based especially upon inventories or surveys of manorial properties, terriers, or (to use again a continental title) *censiers*.[2] These *censiers* describe the extent of the seigneury and its dependent tenures and the nature of the rents and services given by the dependent cultivators to their lord, sometimes including a quite breath-taking wealth of incidental information. England's Domesday Book aside, perhaps the most celebrated of these *censiers* is the polyptych of the abbot Irminon, redacted sometime between 806 and 829 and describing the lands of the monastery of Saint-Germain-des-Prés near Paris.[3] One suspects that, had a trained historian visited the abbey's lands, notebook in hand, his report could scarcely have provided more minutely detailed—or more valuable—intelligence on rural life in the ninth century than Irminon's celebrated polyptych. Still, while the manors of Saint-Germain are for their time and remain for centuries the best known of medieval estates, our knowledge of the northern seigneury, based on such *censiers*, is not without gaps. The *censiers* come typically from the larger, more efficiently managed estates; agrarian historians still discuss to what extent the picture of the "classical" manor that emerges from them—the large property divided into two principal parts, the lord's demesne worked by serfs, and the small allotments or farms *(mansi)* upon which the serfs lived—can be considered typical of the northern countryside. Then, too, the *censiers* are often difficult to date accurately, and we rarely have them in continuous series, so that the history of northern manors must often be reconstructed in terms of the contrasts not between generations but between centuries.

Such *censiers* we possess from Italy, too, notably from the episcopal lands of Lucca and the monasteries of San Lorenzo de Oulx, Bobbio, Santa Giulia di Brescia, Farfa and Volturno.[4] In comparison, however, with their counterparts from the North, these Italian *censiers* are both few in number and poor in content. As if in compensation, Italian manorial archives have preserved a type of source rare in the North: individual contracts,

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[1] See most recently the comments and bibliographies on the history of the Italian seigneury given by the dean of Italian economic historians, Gino Luzzatto, *Per una storia economica d'Italia* (Bari, 1957), 27-46; *idem*, "Mutamenti nell'economia agraria italiana dalla caduta dei Carolingi al principio del secolo XI," *I problemi comuni dell'Europa post-carolingia* (Spoleto, 1955), 601-22; and by P. S. Leicht, "L'organisation des grands domaines dans l'Italie du Nord pendant les Xe-XIIe siècles," *Le Domaine*, Société Jean Bodin, Recueils (Brussels, 1949), 4: 165-76. To the bibliographies given should now be added the recent study by P. J. Jones, "An Italian Estate, 900-1200," *Economic History Review* (henceforth, *EHRo*, 7: 18-32 (1954-55). The older literature is discussed by A. Doren, *Italienische Wirtschaftsgeschichte* (Jena, 1934), 21-107, and in the bibliographical essay by S. Pivano, "Sistema curtense," *Bullettino dell'Istituto Storico Italiano*, 30: 91-145 (1909).

[2] On the nature of the *censiers*, see especially C. E. Perrin, *Recherches sur la seigneurie rurale en Lorraine d'après les plus anciens censiers (IX-XI siècle)* (Paris, 1935), 660-90; for Italy, G. Luzzatto, *I servi nelle grandi proprietà ecclesiastiche italiane nei secoli IX e X* (Senigallia, 1909), 3-11.

[3] *Polyptyque de l'abbé Irminon*, ed. B. Guérard (Paris, 1844), reprinted with some condensations of Guérard's notes and with some additional comment in the *Polyptyque de l'abbaye de Saint-Germain des Prés*, ed. A. Longnon (Paris, 1895).

[4] The *censiers* of Lucca have been edited most recently in *Inventari del vescovato della cattedrale e di altre chiese di Lucca*, ed. P. Guidi and E. Pellegrinetti, Studi e Testi, 34 (Rome, 1921), Nos. 1-4. See also Bobbio, Nos. 63, 76, 107, and 271 (explanations of the short titles used for source collections in the notes are found in the appendix). For Farfa, see *Il chronicon farfense di Gregorio di Catino*, ed. U. Balzani, Fonti per la Storia d'Italia, 33-34 (Rome, 1903), 1: 258-77, and Farfa—Regesto, 5: 254-79 ("De servis huius monasterii et substantiis eorum," dated between 789 and 822). Volturno, No. 71 ("Breve de servis nostris, quos recollegimus in valle Tritana," 3 January 872). For Santa Giulia de Brescia, see Lombardia (*Cod. dipl. langobardiae*, ed. Porro), No. 419 (dating from 905 or 906).

leases, given by the lord of the seigneury to his dependent cultivators. From the monastery of Farfa near Rome, we have a collection of such leases, the *Liber largitorius,* containing over 2000 leases for a period of 300 years, which stands as a monument to the efficiency of estate management in Italy just as the polyptych of Irminon serves as a similar monument in the North.[5] Moreover, besides this one great collection, other leases have survived from other areas in abundance, and we have them in volume already from the latter half of the eighth century.

To explain this paucity of *censiers* in Italian manorial archives, we should note that the northern manors were probably somewhat larger and perhaps more efficiently run than their Italian counterparts, and were continuously under the supervision of the Carolingian rulers, who were eager to encourage good management and the redaction of *censiers* which good management often required. Still, the difference between Italy and the North would seem to go back to a more basic contrast. In the management of a great estate, both *censiers* and leases played a similar role. Both fixed the nature of the obligations owed by the dependent cultivators to their lords, and both could be used as a basis of legal action if the nature of those obligations or the title to the land had come into dispute. In Italy, where the traditions of Roman law and the utilization of and respect for the written instrument remained strong, the lords could preserve the written leases granted to individual cultivators and hence dispense with inquests leading to the redaction of *censiers.* North of the Alps, where obligations were frequently determined by the orally transmitted "customs of the place," the lord of the manor, in times of crisis particularly, could clarify and "fix" those customs only by inquest and the redaction of a *censier.*[6]

We should not, of course, exaggerate the use of the written lease in Italy in contrast to the North, nor discount the importance of customary law even south of the Alps. Particularly during a stormy period which took its toll of written documents, the "customs of the place" played an important role in the life of the Italian manor. Still, the fact remains that there has survived for us from the Italian Middle Ages a volume of leases unique in Europe.

Important too, these leases have a broad geographical distribution; they come from a great variety of places, from small as well as large seigneuries. Many have been published (The important collections accessible to scholars here in America and used in this article are listed in the Appendix.). Of the period 751-1200, these published collections include the bulk of extant contracts from before the year 1000. As we move beyond 1000, the collections come to include only a progressively decreasing fraction of the total surviving material, but even in the late twelfth century that fraction is large enough to be taken as safely representative, *grosso modo,* of the bulk of still unpublished leases.

A series such as this permits us to analyze by statistics changes in the structure of the rural seigneury. These must be statistics of a peculiar sort, to be sure, illustrating changes in types rather than in volumes, more nearly resembling the philologist's device of the word count than the modern economist's method of quantitative analysis. Specifically, by taking our leases together as a single corpus—as a single commentary, as it were, on the period's economic changes—we can hope to illustrate change in an area directly bearing upon the structure of the seigneury: the nature of the rents owed by the seigneury's dependent cultivators to their lord. Seigneurial rents might be of three types: labor services, payments in kind or agricultural produce, or payments in money. Our effort will be to illustrate the importance of each type of obligation in relation to the others, and the fluctuations in that importance over time. We shall consider our corpus of leases by 25-year periods. To each lease within each period we shall allot six points. If the lease sets obligations in all three types (in labor, in kind, and in money), under a column representing the incidence of each type will be entered two points. If it sets obligations in only two types, under each of the corresponding columns will be entered three points; if

[5] See in the Appendix, Farfa—Liber largitorius.

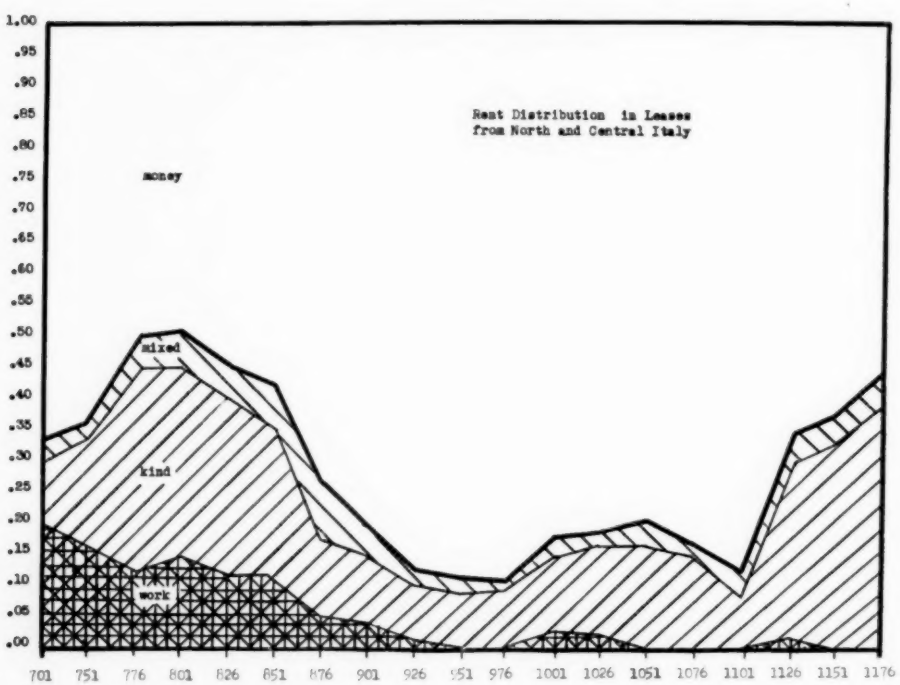
[6] Cf. Marc Bloch, "The Rise of Dependent Cultivation and Seigniorial Institutions," *The Cambridge Economic History* (henceforth *CEH*), 1: 234 (1942).

only one, under the corresponding column will be scored the full six points.

We shall then proceed to calculate, for each 25-year period, the total points scored for each type, and the percentage this represents of the totality of points awarded.[7] For reasons later to be explained, we shall count separately money payments which are part of a "mixed" rent, i.e., calling as well for payments in kind and in labor, and rental payments in money exclusively. Because of the great differences in the monetary system (the Italian South utilizing gold and the Center and North the silver coinage introduced in the Carolingian period) and in the agriculture, we have counted the leases from the "gold area" of the South separately from those of the "silver area" of the Center and North.

On the basis of calculations from the Center and North, the graph accompanying the article is drawn. Because leases from the South are not numerous enough to permit the construction of a graph for the whole of our period, because one source, the collection from the monastery of Cava, so dominates the others in terms of wealth that when it breaks off in the 1060's the series is impoverished and not entirely representative, we have simply presented the table, in the hope that addi-

[7] The few surviving contracts for the first half of the eighth century we have counted as part of an initial period of 50 years, in the hope that with it the subsequent trends of our curves can be more clearly established. These leases come predominantly from the territory of Ravenna and are preserved in a papyrus, the Codex Bavarus, which has been edited twice, in 1801 by M. Fantuzzi (Ravenna, 1: 1-84) and I. O. Bernhart, *Codex traditionum ecclesiae ravennatensis in papyro scriptus* (Monaco, 1810). For comment on the codex, see L. Hartmann, "Bermerkungen zur Codex Bavarus," *Zur Wirtschaftsgeschichte Italiens im frühen Mittelalter* (Gotha, 1904), 1-15, and G. Crosara, "Tesori ravennati all'estero: il Liber traditionum detta 'Codice Bavaro'," *Felix Ravenna*, 44: 43-51 (1950). Neither of the two editions can be said to satisfy the requirements of modern scholarship. Neither makes use of the many internal references in the leases to personalities or moneys as a means of dating the individual leases more accurately. We have included in our count only those leases attributable to the episcopacy of a single bishop, and these dating from the episcopacy of Damianus (688-705) are counted in our 50-year period.



tional material, and particularly the full publication of the leases of Cava, will soon be available to complete it.

To interpret our tables and graph correctly we must of course establish the significance of variations in the types of obligations in respect to changes in the structure of the seigneury. Typically, the totality of the manor's lands (the "seigneurial grouping") was divided into two parts. The first was the land worked directly by the lord, called variously the demesne, the reserve, *terra indominicata, terra sundrialis,* and so forth. The other part was represented by lands given out in small tenements (*mansi* or *sortes*) to the manor's dependent cultivators.

To work his demesne, the lord, with only insufficient numbers of household slaves at his disposal, required from his dependent cultivators not only payments, chiefly in kind, for the tenements, but also labor services, often as many as three days a week, or even limitless, set by his "mercy."

A relative growth in the importance of the labor service means, therefore, a relatively greater recruitment of labor for work on the demesne, and hence its more intensive cultivation. Conversely, too, a diminution of importance of the labor obligation implies a shrinkage of the portion of the seigneury worked directly by the lord. Payments in kind, on the other hand, are typical of the rents given to the lord by his dependent cultivators; their growth in importance implies a growth in the number of tenements making up the manor, and if that growth comes as the labor obligation is declining, we may conclude that portions of the demesne itself are being leased out to new tenants.

Money payments figuring as part of a "mixed" rent along with obligations in kind or labor likewise have rather clear implications. Not unusually, a peasant would pay his lord a small sum of money as rent for his house, just as he provided a portion of his produce as rent for his fields. The commutation of the more unusual seigneurial dues into money — payments representing *exenia* or gifts, or made in return for grazing rights, and so forth—comes early and is likewise fairly common. Such payments should remind us that at no time was Italy entirely on a "natural" economy. The peasant could always find a market and a buyer for certain of his products, cattle perhaps, or pigs, which often figure in agrarian transactions with so precise a price on their heads — a pig of twelve denarii, of sixteen, of eighteen—as to suggest the presence of a market where that assigned value could be tested.

Less evident is the significance of rents set exclusively in money. Let us avoid eulogies to a "money economy." Few half-truths in economic history have proved more misleading than that which would interpret rents set exclusively in money as indicative of rising towns, new markets, prosperity, and the breaking of the shackles of feudalism. As our graph would illustrate, rents are more commonly set in money in the dark, crisis-ridden, "feudal" tenth century than in the last quarter of the twelfth; the economic revival was in fact bringing an ever greater proportion of rents set in kind.

Let us examine these money rents. They are almost always small, even trivial. The consistent smallness of rents set in money should warn us that if the peasant could hope to convert to cash a small and select portion of his produce, the bulk of that produce he could not. This meant that if the lord hoped to collect from his tenants a considerable portion of their produce—and portions from a fifth to a half were typical—he had to set the payments in kind, at least in part. However rapid was Italy's economic growth, the state of the market, or perhaps better, the available facilities for marketing, were only slowly coming to permit the peasant himself to convert to cash from a fifth to a half of his produce. Some commodities became "cash crops" ahead of others (wine apparently ahead of grain), in some areas sooner than in others (Venetia and Lombardy in advance of the rest of Italy). A full "money economy" in the countryside was only to be achieved much later—in Tuscany, for example, even in 1300, agricultural rents are consistently paid in kind—at a time when the period of most rapid economic growth was already passed.

We are now in a position better to understand what an increase in the incidence in money rents in our period means. Rents set

exclusively in money are "easy" rents. (We may here recollect that in medieval England too, a rent set in money was accepted as evidence that the tenure was a "free" one, held on terms favorable to the tenant.)[8] For rents set exclusively in money indicate that the lord was drawing only a small portion of the produce from the holdings, so much so that not infrequently the payments served as no more than recognitive gestures of the lord's suzerainty over the land. In fact, however, in economic terms, the holdings had passed out of the "seigneurial grouping" and preserved only a tenuous and easily forgotten relationship to the estate of which they had been a part.

This, in essence, is the interpretation a contemporary, Gregory of Catino, offered us. In a discussion of the nature of leases written early in the twelfth century, he told us that the ancients called the lease an "emphiteosin," that is, an "improvement and increase" *(melioratio et auctio)*, since they are meant to contribute to the growth of the Church's revenues by providing her a substantial portion of the produce of the leased land, or the labor of its tenant. Leases granted, however, "for only a brief or temporary annual payment in money" did not improve or increase the Church's estates but rather profited those who received the leases.[9] A solid block of 300 leases, all given for money rents in the 1120's, Gregory described as his monastery's "losses" *(distractiones)*.[10]

That leases for money rents implied the "distraction" of the tenure from out of the seigneurial grouping is reflected too in the prohibition commonly laid upon ecclesiastical institutions against granting them, and the insistence that leases be given only "to workers for a portion of the produce" *(ad partem reddendam)*.[11] "Let leases be given," said one such prohibition at Cremona in 1066, "only for a fourth of the grain and a third of the wine."[12] Legal disputes illustrate this further. In 1170 at Parma, a peasant was judged to hold part of his lands in servile tenure *(ad condiciones manentatici)* and was required to pay a rent in kind for it; another part the same peasant was judged to hold in non-servile tenure—"in free socage," an English source might have put it—for which he had to pay a money rent.[13]

We are fortunate, too, that a modern scholar, Ludwig Hartmann, has already shown that Gregory's observation was borne out in practice. Hartmann pointed out that at Ravenna, leases given to direct cultivators called for payments in kind, while leases or benefices given to great men who did not work the soil themselves, to so-called "mesne tenants," often called only for small, purely recognitive payments in money.[14] Of course, frequently too, even small direct cultivators, particularly favored, received land for such "easy" rents in money. Indeed, those who held property for money rents appear to have represented in Italy as varied a social group, ranging from the very rich to the very poor, as that of the freeholders in England, with whom they would seem to be to a significant degree comparable. For our purposes the point to be derived from Hartmann's research is that a lease for a money rent in this period meant almost always "that the leased property . . . passed out of the economy of the lessor."

A relative growth in the number of such leases indicates, therefore, a tendency for holdings to be "distracted" from out of the seigneurial groupings, just as leases calling for rents in kind, in labor, or mixed, meant the "increase" of such groupings, as Gregory of Catino might have phrased it. In the contrast between these two groups of rents (in kind, labor and mixed, as opposed to those in money alone) we can hope to construct an index showing the relative tendencies of growth or dispersion of Italy's seigneurial groupings. Tendencies only, let us emphasize. The absolute proportions among our types of rents for any given period have no significance for us. However, in contrasting successive periods, we can hope to reconstruct in outline form a crude but serviceable history of Italy's great properties and the trends of

[8] P. Vinogradoff, *Villainage in England* (Oxford, 1892), 171.

[9] *Chronicon farfense*, 1: 235.

[10] Farfa—Liber largitorius, Nos. 1654-1957, "distractiones terrarum domni Guidonis Abbatis III [1119-1125]."

[11] Farfa—Regesto, No. 512, year 1018. *Chronicon farfense*, 2: 42.

[12] Cremona, No. 140, 11 April 1066.

[13] Parma, No. 389, 26 April, 1170.

[14] L. Hartmann, *Zur Wirtschaftsgeschichte Italiens*, 6.

growth or dispersal they witnessed. We can further hope, in the contrast between labor services and payments in kind, to be able to illustrate the changes in the internal structure of the Italian seigneury for over 400 years of its history.

Our graph would suggest that in the late eighth century, simultaneously as the Frankish state was expanding to become a European empire and Carolingian civilization was reaching its climax, there was taking place in Italy a marked "seigneurialization" of the countryside, a recruitment of labor and concentration of rental income to the benefit of the lords of great estates. To be sure, the number of our leases is small and the weight of their evidence only a little greater than that of pure hypothesis. We must be careful to point out, too, that seigneurial organization, in at least some of its features, goes back to the period of the Germanic settlements and the late Roman Empire, if not beyond; by the sixth century, as illustrated by Europe's oldest surviving *censier*, a papyrus describing rents collected by the church of Ravenna in the district of Padua, that organization was already close to maturity.[15] Still, we can speak with justice of a remarkable increase in the rate of manorial growth in the eighth century, if only because so many of Italy's great seigneuries of the Carolingian period can be traced to an eighth-century foundation, most especially to that great revival in monastic life which that century witnessed. To measure the dimensions of this revival is only to list the monasteries built or restored in its wake: San Vincenzo al Volturno (703); Farfa, which by 800 was probably Italy's wealthiest (restored not much before 715); Monte Cassino (rebuilt 720); Nonantola, in terms of wealth probably Italy's second monastery (735). Typically the monks established themselves in deserted or semi-deserted areas, attracted generous donations of land and new settlers to help them work it, and with great organizational skill (perhaps most fully illustrated by the records of Bobbio), organized the land into the many, often widely scattered estates characteristic of monastic patrimonies.[16] We are less satisfactorily informed concerning lay efforts to build seigneuries, but protests in the sources concerning the methods used by the "powerful" to gain labor for their lands, prohibitions imposed upon them against developing land claimed by the Church, would show that laymen too played a role in this vigorous growth of Italy's great properties.[17]

And the problem common to monks and laymen alike was how to secure labor for their lands. Our sources give the impression not only of acute shortage of, but of spirited

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[15] Most recently edited and translated by J. O. Tjäder, *Die nichtliterarischen lateinischen Papyri Italiens aus der Zeit 445-700* (Lund, 1955), 1: 184-189. The dependent cultivators not only make payments in money, kind and labor, but also render "gifts" *(xenia)*, suggesting that the lord had already established himself as the political "chief" of the manorial community. For the similarities of early medieval seigneurial organization with that of the large estates, the "fundus" and "saltus," of the late Empire, see especially P. S. Leicht, *Studi sulla proprietà fondiaria nel Medioevo* (2 vols.; Padua, 1903-06). The estates of Roman North Africa reveal, already from the second century A.D., a "demesnal" type of organization in which dependent cultivators, *coloni*, settled upon and working their own allotments, likewise contribute their labor to help work the demesne. The theory that the Carolingian period saw a great upsurge in seigneuries throughout the Frankish state, at the cost of the virtual disappearance of small properties, was argued especially by K. von Inama-Sternegg, *Deutsche Wirtschaftsgeschichte*, I (2nd ed.; Leipzig, 1909), whose position, and that of its many other supporters, is conveniently summarized by J. M. Kulischer, *Storia economica del medio evo e dell'epoca moderna*, translated by G. Böhm and edited by G. Luzzatto (Florence, 1955), 1: 55-97. This theory was vigorously attacked by A. Dopsch in numerous publications and especially in his *Die Wirtschaftsentwicklung der Karolingerzeit vornehmlich in Deutschland* (2 vols.; Weimar, 1912-22). In his overall emphasis upon continuity between the ancient and medieval worlds, Dopsch stressed both the continued existence of small, independent properties in the Carolingian period and the great antiquity of seigneurial forms of agriculture. At present, however, rural historians seem agreed that there did occur in the Carolingian period a considerable decline in the numbers of small, independent tenures and consequently an important growth of great properties. Cf. C. E. Perrin, "Le grand domaine en Allemagne. Son organisation et les grands traits de son histoire au Moyen Age," *Le Domaine*, 120.

[16] San Vincenzo al Volturno was founded "in a place where there was then no habitation of men, saving the dens of wild animals and thieves," *Chronicon farfense*, 1: 140. It early attracted settlers, who were settled on the monastery's lands both as workers and fighters. In 854, for example, some dependents protested that they had been "commended" as freemen and had "come into the monastery only for defense, not as serfs" (Volturno, No. 72; see below, fn. 46). Farfa welcomed "hospites" "from many diverse nations," *Chronicon farfense*, 1: 140. Nonantola was founded in the great forest of Zena near Modena (Nonatola, Nos. 3-4). On the organization of Bobbio, see L. Hartmann, "Die Wirtschaft des Klosters Bobbio im 9. Jahrhundert," *Zur Wirtschaftsgeschichte Italiens*, 42-73.

[17] See below, fn. 24.

competition for, agricultural workers.[18] We hear of some estates, particularly those of the pious and capable monks, attracting crowds of new settlers, while still others, the exactions of whose lords weighed too heavily upon the peasants, were being abandoned and given over to "solitude." Several are the contracts from Lucca, where the lessee received land on condition that he would find the men to settle it. Where he would find them, how attract them, we are not told; but his promise to provide them carried weight in Lucca's episcopal councils.[19] Interesting, too, are the specific prohibitions imposed on laymen against "hiring" *(conducere)* "strange men" as workers, a provision which was probably intended to prevent laymen from developing land the theoretical title over which was claimed by the Church, but which might also be read in context with prohibitions against the harboring of escaped slaves.[20] Perhaps the best illustration of this labor shortage is the labor obligation itself, so important particularly in our earliest leases. Working understaffed estates or even virgin lands, the lords thought first in terms of the new settlers as workers rather than rent payers.

It is extremely difficult to evaluate the importance of slaves as agricultural laborers in this period. The greatest Carolingian manors, upon which slaves made up only a small portion of the population, are perhaps not truly representative; we can still find, in the tenth century at Reggio in Emilia, small estates in which over half the working force was made up of slaves.[21] Did small estates generally preserve a high proportion of slaves, as opposed to those great, especially monastic seigneuries which had expanded enormously in the eighth century? For certainly the labor needed for a vigorous expansion of large-scale cultivation could not too easily be recruited from the ranks of slaves. Slavery bothered some lord-abbots; Saint Benedict, founder of the great monastery of Aniane in southern France, refused to accept donations of slaves, "but insisted that they be freed."[22] Indeed, could the monks maintain at their monasteries or manor houses, "infra casa" as say the sources, large groups of slave laborers, their wives, their daughters? The practice, so common in Italian donations of land to the Church, of liberating the slaves that had formerly worked it, would suggest that Benedict's qualm was not a personal idiosyncrasy. But qualms or not, the ranks of slaves, thinned, perhaps, for centuries, by a low birth rate, eroded, for centuries too, by Christian piety, irreplenished for lack of slave marts, could not provide the basis for manorial growth. As Marc Bloch instructs us, in explaining the growth of the manor, the "crucial problem" is "to explain how innumerable peasants, by ancestral status free . . . got entangled in the meshes of the *seigneurie*."[23]

Force was a factor. Carolingian capitularies abound in protests concerning the oppression of such "powerful" men as the vassals of the counts, or the counts themselves, who forced freemen to "plow and sow" their

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[18] Saints' lives of the period draw the moral that lords who treated their dependents harshly could expect neither to retain workers on their lands nor to attract the new settler *(novus hospes)* they apparently wanted. Cf. the speech of the abbot Lupicinus, in the Vita patrum iurensium, ed. B. Krusch, *Monumenta Germaniae Historica, Scriptores* (hereafter, *MGH, Ss*) *Rerum Merovingicarum* (Hanover, 1896), 3: 149, a work of the early or middle ninth century pretending to describe conditions of the fifth. See also the incident related in the seventh-century Vita Iohannis abbatis Reomaensis auctore Iona (*ibid.*, 510) where, if I understand the sense of the story correctly, the saintly abbot one day encountered a man starving, advised him to improve himself morally, after which the man received "such a supply of labor" *(tantam copiam laboris)* as never again to be in want. Flight from harsh landlords is also described in the Capitulare Mantuanum (dating probably from early 787), *MGH, Legum Sectio* II, *Capitularia Regum Francorum* (henceforth, *Capit.*), (Hanover, 1883), o. 93, 1: 197. Evidence of a scarcity of manpower in Italy in the early Middle Ages is reviewed especially by G. Salvioli, *Le nostre origini. Studi sulle condizioni fisiche, economiche e sociali d'Italia nel medio evo prima del mille* (Naples, 1913), 113-49. For Europe as a whole, see J. C. Russell, *Late Ancient and Medieval Population*, Transactions of the American Philosophical Society, New Series, Volume 48, Part 3 (Philadelphia, 1958).

[19] Lucca, No. 206 (Feb., 786), No. 697 (April, 853), and No. 787 (April, 866).

[20] Nonantola, 3, "ut homines de Fanano, Lizano et Gabba non audeant conducere extraneos homines in ipsis curtibus et locis prenominatis." Cf. *Capit.*, No. 103, 1: 211, dated 806-810, for a similar prohibition. For escaped slaves, *ibid.*, Vol. 1: No. 91, dated 782-786, "de servis et ancillis fugacibus."

[21] Reggio, No. 93. On four estates there are found a total of 382 "slaves" (men and women and children, apparently all serving "infra casa,") and 41 "allotments" *(sortes)*, with an unspecified number of serfs living upon them.

[22] *Cartulaire d'Aniane*, ed. Abbé Cassan and E. Meynial (Montpellier, 1900), 8.

[23] *CEH*, 1: 243. On the decline of slavery, see especially M. Bloch, "Comment et pourquoi finit l'esclavage antique," *Annales — Economies—Sociétés—Civilisations*, 2: 30-44; 161-170 (1947).

fields.[24] Still, the warning from those same capitularies, and from the period's hagiography too, that the cruel or unjust lord was apt to find his lands deserted, should instruct us that the role of force or class oppression in the reduction of freemen to dependency ought not to be exaggerated.[25] The great abbots of the time are characteristically described as kind and charitable to the poor and the pilgrim, and the estates they organized were the greatest. Our sources speak of crowds "from various nations" flocking to new monastic foundations and giving themselves willingly, nay, with zeal, to seigneurial dependency.

The piety of the monks, the security they offered, were obvious attractions for new settlers. But our leases give voice to what was perhaps a more keenly felt motivation. In 828 at Farfa in a single contract sixteen peasants from three villages accepted tenancies from the monastery, "for the reason that we have nothing wherewith to live."[26] The capitularies would show that an impoverishment of a segment of the free classes, forcing many off the land, feeding "an army of wanderers," was a commonly observed phenomenon.[27] Common too was the tendency for the freeman (and the half-free as well) to escape their need by accepting lands from the Church, as again a capitulary describes as a general phenomenon "slaves, the half-free *(aldiones)*, old leaseholders or those newly made . . . leaving the public lands . . . out of poverty [to] cultivate the land of the Church or accept it to be cultivated."[28]

Poverty was forcing many freemen into seigneurial dependency, yes! But let us take care to emphasize too that they were not entirely at the mercy of the "powerful," not forced to commit themselves as landless laborers, as virtual slaves, to the rising seigneuries. Our 16 peasants, in return for the precious labor they contributed for the cultivation of Farfa's demesne, received, as they must have insisted on receiving, plots of their own land to work, a vital acquisition which preserved their dignity and prevented assimilation of their status to that of slaves. The capitularies and saints' lives, warning that good treatment was necessary to retain and attract agricultural workers, suggest that even the destitute could bargain. Does not our lease from Farfa, do not the many like it, reflect in fact a bargain, a compromise of interest, between the "powerful," still bothered by a shortage of labor on their extensive lands, still striving to attract it, even competing among themselves for it, and the "poor," needing land, and able to offer their valued help in the cultivation of a lord's demesne in return for it? The structure of the matured seigneury, with its peculiar division between the lord's demesne and the laborers' plots reflects, of course, at times the inability, at times the unwillingness of lords to maintain at their manor houses large groups of laborers. Does it not also at times reflect a multitude of bargains, of which our leases are a scant but representative survival, struck between the still labor-hungry rich and the growing numbers of land-hungry poor?

To add a nuance to Marc Bloch's conception of the problem of seigneurial growth: to explain this impoverishment of a portion of the humble classes, this swelling of the ranks of the "poor," which led so many to entangle themselves in the seigneurial meshes—that is the crucial problem! Was it due, as agrarian impoverishment is so often due, to the division and subdivision of hereditary allotments, and ultimately to a growth in population tending first to drag into poverty the lower levels of society? Does all our evidence together—the impoverishment of freemen, the growing number of leases, the increased importance of seigneuries and the increased labor force that presumes—permit us to conclude that in the more settled years of the eighth century, the bitter wars of Lombard against Rome now over, Italy's population had begun at last decisively to grow? Or is it too much to hope to find, in the period's scanty sources, the outlines of an emerging pattern?

In the first quarter of the ninth century, the Carolingian seigneury stood, according to our graph, at the height of its importance

[24] See especially for Italy the Capitulare Mantuanum (ca. 787), in *Capit.*, No. 93, 1: 196-97. Numerous citations from Carolingian sources concerning the oppression by the powerful are given in H. Fichtenau, *The Carolingian Empire*, transl. P. Munz (Oxford, 1957), 144-76.

[25] See above, fn. 18.

[26] Farfa—Liber largitorius, No. 7, 24 May 828.

[27] Cf. Fichtenau, *Carolingian Empire*, 153 and ff.

[28] *Capit.*, No. 93, 1: 196.

and prosperity in Italy. But, like the Carolingian state the history of which it seems so closely to parallel, the heyday of the seigneury was short-lived. Trends of disintegration make themselves evident even after 825, and after 875, catastrophe. Up to the last 50 years of the tenth century, the manor in both its parts, demesne and servile allotments, is subjected to a shock wave of dispersal and disintegration.

In contrast with the period before 800, in establishing this trend we are relying upon numerous contracts. Here too, we have the help of narrative sources to confirm our graph's behavior, and their testimony is explicit.

For the great seigneuries which had been the pride and basis of the Carolingian economy, the tale is universally one of destruction. The monks of Bobbio "are crucified by hunger . . . naked they are burnt by heat and cold"; as they watch their lands seized by those stronger than they, they ask in bitterness, "Had [Christ] purchased with the price of his blood only the powerful *(divites)*?"[29] Nonantola in this period "gradually and in all things was reduced to nothing."[30] Farfa, too, is "annihilated and reduced to nothing."[31] The monks of Monte Cassino protest that "from so great and wide possessions nothing remains for our use except the town at the foot of [our] mountain, and four or five estates . . ."[32] "On all sides evil and proud men rise up against us . . . and lay waste our land, force [us] poor cultivators to live in pain, hunger, thirst and nakedness . . . Help us, O Lord!" This last from San Vincenzo al Volturno.[33]

Nor did episcopal seigneuries fare any better. Already by 852, the bishop of Lucca was complaining that his patrimony was almost completely lost.[34] At Ravenna, by 967 "the roofs [of the churches] were caving in, the walls threatened collapse, the elements defiled the altars."[35] At Pisa, by 958 the clergy faced "poverty" because of the "hard times."[36] At Bologna, the bishop protested in 973 that his church could support neither the poor nor its clergy.[37] At Vercelli, "the house of God had been wasted by laymen and despoiled of land, treasures and serfs by her very rulers, nay robbers."[38] At Milan, Church property had been lost "wrongly, by vice"; it had been "maliciously and in diverse ways cut up by many."[39] At Reggio in Emilia, "the Church has been lacerated by her rulers, is almost prostrate and reduced almost to nothing."[40] "The wealth of the churches of God," announced Otto III in 998, "is being annihilated."[41] The Synod of Pavia (1022) declared, "By the negligence and wickedness of her rulers . . . the Church, at one time wealthy, has been impoverished in our days."[42]

And the "avaricious" laymen, to whose charge our ecclesiastical sources would lay this misery—were they profiting from their crimes? Here too our picture, built on much scantier sources, is one of crisis, turmoil, ruin. "And in those days," says a description of post-Carolingian society, cast in the form of a prophecy given the century before, "slaves shall marry the daughters of their lord, and the lowly shall marry the noble, and from those born of impurity there shall be judges and dukes, and they shall overturn the earth."[43]

This disintegration of Italy's great properties seems due to a growing tendency on the part of the great lords to sell, or to lease under favorable terms in return for a money payment, large portions of their manors. They were in fact moving to liquefy and spend the capital represented by their manors, so much so that we may fairly describe the process as one of "disinvestment." The Church reformers of the period would have us believe that the insatiable avarice of unregenerate bishops and abbots was the motivation behind these disinvestments. Indeed,

[29] Miracula sancti Columbani, ed. H. Bresslau, *MGH, Ss,* 30²: 1012 (dated between 944 and 967).
[30] Nonantola, No. 3.
[31] *Chronicon farfense,* 1: 290 (dated 936-963).
[32] Dialogi de miraculis sancti Benedicti, ed. G. Schwartz and H. Hofmeister, *MGH, Ss,* 30²: 1139 (dated 1011-22).
[33] *Chronicon vulturnense,* 1: 19.
[34] Lucca, 4², No. 32.
[35] Annalista Saxo, *MGH, Ss,* 4: 608 (dated 967).
[36] Pisa, No. 49, 3 December 958.
[37] Modena—Chiesa cattedrale, No. 57, dated 973.
[38] Vercelli, No. 40, dated 1022.
[39] Landulfi senioris Mediolanensis Historiae libri quatuor, 2: 20. *MGH, Ss,* 8: 57 (dated 1018).
[40] Reggio, No. 173, 1031-49.
[41] *MGH, Legum Sectio IV,* 1: 49 (20 Sept. 998).
[42] *Ibid.,* No. 34, 72.
[43] Agnelli liber pontificalis ecclesiae Ravennatis, *MGH, Ss Rerum Longobardicarum,* 385. The work was written about the middle of the ninth century.

Abbot Campone of Farfa, with seven sons and three daughters to care for, did not spare his monastery's wealth in promoting his family's interests, and his career is typical of the age.[44] The sales and leases, on the other hand, rather mention the destruction caused by "pagan" raids, the need for money to repair the damage, or they simply appeal to "some necessity" to justify the alienations of land.[45] Perhaps the most common cause for the ruin of Italy's great properties was the growing military burden that the countryside came to assume in that wild period of invasions and wars of the late ninth and tenth centuries. There can be little doubt that the prime obligation of the "free" tenants of the Italian countryside, those who held for the easy payments in money whether as mesne tenants or direct cultivators, was, originally at least, military, "for the defense [of the manor]" as says one source.[46] The disintegration of the great estate was in large measure the proliferation of the fighting classes, coming in the wake of the period's invasions and wars.

Still, even behind these military needs, wars and destruction, we seem to discern a more properly economic crisis, explaining why these additional burdens of war could not be assumed without the virtual destruction of the Carolingian manor, without disinvesting, we could fairly say, the capital wealth built up in the great estates over former years. This crisis was manifested by impoverishment in the peasant village; its nature the author has attempted to present in a previous article.[47] By the tenth century in Reggio in Emilia, we can find as many as five workers—and five families—living on land originally meant to support, and occupy the labor of, one, and other evidence too points to a growing problem of overpopulation in the peasant village.[48] Even the large estates, dependent for their own prosperity upon the prosperity of the villages, could not weather this crisis, which reaches its climax in the great European-wide famines, and the celebrated "terrors," of the year 1000.

After the year 1000, that great watershed in medieval history, we have evidence of a vigorous effort at agrarian reconstruction, the varied phases of which defy even summary in a short article. In regard to tenures, we find consolidations of scattered and inefficient holdings, and "reintegrations" of farms and estates.[49] A leading role, particularly in the early phases of this reconstruction, and an important role even after, was played by men who themselves worked the soil. It is easy to give examples of monks, themselves cultivators, embarking on efforts at buying up and consolidating scattered pieces of land.[50] Lay farmers also were apparently making similar efforts at consolidations, and successfully, too, if the amount of wealth gained by some of them is any indication. We hear, for example, of one "praedives agricola" in southern France, who entertained his bishop, together "with a multitude of clerics and knights," serving them the flesh of "diverse birds" on plates of silver and gold![51] Coupled with this effort to consolidate properties was an intense suspicion on the part of the monks against any division of their holdings or any granting of leases, to whatever cultivator on whatever terms. This principle that the demesne should be kept integral and worked only by the monks or hired helpers received its widest and most successful application in the policies of the Cistercian Order (founded 1098), so justly celebrated for the energy of its colonizing activities and the excellence of its agriculture. This aspect of the history of great properties has of course left no imprint on our body of leases, but its importance can scarcely be exaggerated.

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[44] For Campone and his family, see *Chronicon farfense*, 1: 307.

[45] For leases granted at Farfa in return for sums of money or goods to help restore the monastery destroyed by the Saracens in 935, see Farfa—Liber largitorius, No. 96, February 935, and many following. For leases at Volturno granted "for the restoration of the monastery," see Volturno, No. 90, dated 926, and for "some necessity," *ibid.*, No. 74, 3 April 885.

[46] Cf. the protest of the men of Ofena that they owe no service "quia nos et parentes nostri semper liberi fuimus, nam nos pro defensionis causa fuimus pro liberi homines commendati in ipso monasterio non pro servi." Volturno, No. 72, 2 February 854.

[47] "The Agrarian Revolution in Southern France and Italy, 801-1150," *Speculum*, 33: 23-41 (1958).

[48] Reggio—No. 93, where on five *sortes* reside 25 *manentes*. Evidence of an agrarian crisis comes especially from the greatly increasing fluidity of agricultural holdings over the period 801-1000. See my article cited in fn. 47.

[49] See Herlihy, "Agrarian Revolution," *Speculum*, 33.

[50] *Ibid.*

[51] *Cartulaire de l'abbaye de Saint-Chaffre du Monastier*, ed. U. Chevalier (Paris, 1884), No. 420, dated 31 January 1016.

Simultaneously after the year 1000, we can note an upsurge of large estates in more properly seigneurial forms, in the sense of a progressive increase in the number of dependent cultivators. The resurgence is slow, halting, and not without reverses. Nor can our curve, based on a fraction of surviving contracts, be considered fixed in the details of its behavior. We wish we could explain satisfactorily the downturn from 1075 to 1125. It may represent the imposition upon our curve of the special history of the monastery of Farfa, from which so many of our leases derive, and the shame of its abbot Guido, who, in the 1120's, "lost" no less than 300 properties; Guido's shame, on the other hand, may have been no more than typical of the generation that saw the end of the "Gregorian reform" and a reaction against the lofty principles of clerical behavior it preached. At any rate, the long-term trend of our curve is clear: the economic revival in Italy was bringing with it a restoration of great estates.

The new great properties were, however, much different from those of the Carolingian period. The labor obligation, perhaps the most characteristic feature of the Carolingian manorial dues, and the cultivation of the demesne based upon it, never regain their former importance. We might add, too, that the "political" rights that the Carolingian lord had exercised over his dependents tended to become disengaged from ownership and to be collected together, by great feudatories and bishops, even by city communes, into "territorial" seigneuries rarely coterminous with, and typically larger than, the economically defined "seigneurial groupings." After 1150 the seigneurial grouping in an economic sense was well on its way to becoming a collection of properties paying high rents to a single owner, with little left to remind us of the Carolingian seigneury which was its distant ancestor.

This transformation of the seigneury between Carolingian times and the twelfth century, agrarian historians have come to call "the rent revolution," *la revolution censive*.[52] It occurs not only in Italy, but in Lorraine, Bavaria, Burgundy and France (but apparently not in the rest of Germany or in England, which in this respect were a century or two behind these other areas). In Italy it does not emerge primarily as a gradual and peaceful process by which great lords parcelled out their demesnal lands by leases and commutated the labor obligations of their dependents, though such a process undoubtedly occurred and undoubtedly too had importance. The "rent revolution" in Italy rather appears to have taken the course of a crisis in the Carolingian manor, becoming manifest after 850, and, after 1000 and particularly in the late twelfth century, a reconstruction of great properties on lines much different from those of the Carolingian estate.

This reconstruction was achieved importantly by an effort on the part of landlords to screw up their rents. When in 1191 at Lucca a rent of two denarii was commutated into a payment of one *starium* of grain, it was in fact being raised by something like nine times.[53] Perhaps still more important was a growing tendency to invest in land on the part of great landowners, churches, even the urban bourgeoisie—on the part of men, who, if sometimes themselves cultivators, were here not interested in enlarging the property they themselves worked or in finding labor for their land, but rather in a return for an investment. Especially after 1150, as the growing towns brought an increasing demand for food, investment in land was pro-

[52] See M. Bloch, *Les caractères originaux de l'histoire rurale française*, ed. R. Dauvergne (Paris, 1952-56), 1: 104; for Bavaria, P. Dollinger, *L'Evolution des classes rurales en Bavière* (Paris, 1949), 122-43; for Lorraine, Perrin, *Seigneurie rurale*, 652; for Burgundy, A. Déléage, *La vie rurale en Bourgogne* (Macon, 1944), 1: 529-32; and for Italy, Luzzatto, *Servi*, 178-83, and C. M. Cipolla, "Per la storia della crisi del sistema curtense in Italia," *Bullettino dell'Istituto Storico Italiano e Archivio Muratoriano*, 62: 283-304 (1950).

[53] Lucca—Capitolo, No. 1647, dated 1191. For anindication of the price of grain, cf. *ibid.*, No. 1522, 5 December 1184, where a *starium* of grain is worth more than one and one-half solidi. For other examples of commutations from rents in money to kind, see Jones, "An Italian Estate," *EHR*, 7: 27 (1954-55). Mr. Jones mentions the debasement of the coinage as a factor in explaining this commutation. While his point is well taken, we should note too that a commutation from money to kind seems usually to have involved a hike in the rent itself out of all proportion to the fall in value of the coinage, as, in the example cited above, by nine times during a period when the coinage had fallen by a half. Because in the bulk of rents set in money the payments were so small, verging on the purely recognitive, I do not think that debasement provided the principal motivation for this wave of commutations and would rather consider the desire greatly to increase rental incomes as the decisive factor.

viding an ever more attractive source of profit. We know that by the middle thirteenth century at Pisa ten pounds of a minor's money invested in land (one *starium*) was expected to receive a yearly return of one *starium* of grain.[54] This represented a return of about 7 or 8 per cent, perhaps not comparable with the profits a successful overseas venture might bring, but the safest of all investments. Undoubtedly, too, vigorous men, utilizing their own and not a minor's money, could do better.

These investors were of course demanding high rents for the properties they were buying. The increasing number of highly rented leaseholds which come to characterize the Italian countryside by the late twelfth century (the process apparently continuing and even gathering momentum through the thirteenth) does not, of course, mean an increased exploitation of or misery for the peasant. The investors were performing a real function in improving the quality of, and the return from, agricultural enterprise. They provided capital by means of which efficient tenures could be reconstructed. They even looked carefully into the type of agriculture thereupon practiced, and moved to block that nemesis of good cultivation, land divisions, by insisting that the integrity of holdings be preserved.[55] In brief, by the twelfth century we find that land is clearly becoming commercialized, that it is attracting investments and improvements, from which all—the investor, the peasant and the nascent city—drew profit.

Thus, the structure of Italy's great properties changed, not rapidly perhaps—the four centuries we have covered is no brief period—but surely extensively. We should suggest that the subject most worthy of investigation as a force behind this nearly continuous revolution is that of population growth, which seems to have played a major and not yet fully clarified role in the successive transformations of the seigneury, in its rapid growth in the eighth century, crisis in the late ninth and tenth, in its reconstruction from the year 1000. The comments we have made on these transformations must be recognized as only the outlines of an emerging picture, and the possibility remains real that we are misled by the shadowy shapes with which we must deal. We believe, however, that it is not premature to express these interpretations now, on the plea that however much they will have to be later developed and modified, there is value for future research if we do no more than call attention to the fact of change and the presence of problems. Perhaps, too, we have illustrated the danger of too facile assumptions concerning the stability, the changelessness, the stagnation of rural life even in the early Middle Ages. The problems the men of that time faced were great and critical, and their reactions to them strong.

APPENDIX

The statistical count is based on all leases contained in the following chartularies and parchment collections. The list does not pretend to be exhaustive, but the author believes that he has incorporated into it all the major collections of private sources for the period. For additional bibliography, see C. G. Mor, *L'Età feudale* (Milan, 1952), 1: xi-xiii. Where possible, chartularies and collections published in series or journals are cited only by their place of provenience and the number of the series or journal. The following abbreviations are used:

ASLSP = Atti della Società Ligure di Storia Patria; ASPP = Archivio Storico per le Provincie Parmensi; ASRSP = Archivio della Società Romana di Storia Patria; AV = Archivio Veneto; BISIAM = Bullettino dell'Istituto Storico Italiano e Archivio Muratoriano; BSSP = Bullettino Senese di Storia Patria; BSSS = Biblioteca della Società Storica Subalpina; DSSCDCI = Documenti e Studi per la Storia del Commercio e del Diritto Commerciale Italiano; FSF = Fonti di Storia Fiorentina; FSI = Fonti per la Storia d'Italia; PC = Periodico della Società Storica della Provincia e Antica Diocesi di Como; RCI = Regesta Chartarum Italiae.

I. North and Central Italy

Acqui (*Monumenta aquensia*, ed. J. B. Moriondus [Turin, 1789-90]). Alessandria—Cartario Alessandrino (*BSSS*, 113). Arezzo (*Documenti per la storia della città di Arezzo*, ed. U. Pasqui [Florence, 1899]). Asti—Archivio capitolare (*BSSS*, 28). Archivio liberiano (*ASRSP*, 27). Archivio Vaticano—

[54] Constitutum legis civitatis Pisae, *Statuti inediti della città di Pisa*, ed. F. Bonaini, II (Florence, 1870), 738, addition to the code made in 1259. In 1263 a *starium* of grain at Pisa cost between 14 and 16 solidi. See D. Herlihy, *Pisa in the Early Renaissance* (New Haven, 1958), 198.

[55] See, for example, at Tortona, prohibitions against dividing the leasehold among heirs (Tortona, No. 108, 1 August 1187; No. 110, 20 August 1188; No. 120, 22 March 1192; No. 143, 15 April 1195). See also the requirements placed on tenants in 1192 to cultivate their leasehold according to the two-field system, "et debent ita laborare omni anno medietatem ipsius terre quod in duobus annis sit tota laborata," Vercelli, No. 528, 29 February 1192.

Cancelleria della Nunziatura di Venezia (selections, *ASPP*, 23-24).

Berardenga (*BSSP*, 21-23). Bobbio (*FSI*, 52-53). Bologna (*Le carte bolognesi del secolo decimo* ed. G. Cencetti [Bologna, 1936]; *Le carte del secolo XI dell'archivio di S. Giovanni in Monte e S. Vittore*, ed. G. Cencetti [Bologna, 1934]). Breme (*BSSS*, 127). Brione (*BSSS*, 57). Brondolo e Chioggia (*AV*, 32).

Camaldoli (*RCI*, 2, 5). Carte varie (*BSSS*, 86). Casale Monferrato—Archivio capitolare (*BSSS*, 40). Casanova (*BSSS*, 14). Chiaravalle di Fiastra (*Carte della Abbazia di Chiaravalle di Fiastra* [Ancona, 1908]). Chiavenna (*PC*, 21). Chieri (*BSSS*, 76). Coltibuono (*RCI*, 4). Cremona (*Cod. dipl. Cremonae*, ed. L. Astegiano [Turin, 1895]).

Fabriano (*Carte diplomatiche fabrianesi*, ed. A. Zonghi [Ancona, 1872]). Farfa—Liber largitorius (*RCI*, 11, 17). Farfa—Regesto (*Il regesto di Farfa*, ed. I. Giorgi and U. Balzani [Rome, 1878]). Firenze—Badia (*FSI*, 1). Firenze—Canonica della Cattedrale (*RCI*, 23).

Gassino—Archivio comunale (*BSSS*, 43). Genova—Cartario genovese (*ASLSP*, 2). Genova—Codice pelavicino (*ASLSP*, 44). Genova—Curia arcivescovile (*ASLSP*, 2, 18). Genova—Notai liguri (*DSSCDCI*, 1, 2, 11, 12, 13, 15).

Imola (*Chartularium imolense*, ed. S. Gaddoni and G. Zaccherini [Imola, 1912]). Ivrea—Archivio capitolare (*BSSS*, 9). Ivrea—Archivio vescovile (*BSSS*, 5). Ivrea—Santo Stefano (*BSSS*, 9).

Lodi (*Cod. dipl. laudense*, ed. C. Vignati [Milan, 1879]). Lombardia (*FSI*, 62-63; *Cod. dipl. Langobardiae*, ed. Porro [Turin, 1873]; chronology corrected by C. Santoro, *Archivio Storico Lombardo*, 2: 228-254 [1950]. Lombardi——Raccolta Morbio (*Lombardische Urkunden*, ed. A. Hortzschansky and M. Perlbach [Halle, 1890]). Lucca (*Memorie e documenti per servire all'istoria del ducato di Lucca*, Vols. 4 and 5 [Lucca, 1837]). Lucca—Archivio di Stato (*Archivio di Stato. Regesti*. Vol. 1: *Pergamene del diplomatico* [Lucca, 1903]). Lucca—Capitolo (*RCI*, 6, 9, 18). Mantova (*RCI*, 12).

Mantova—Archivio capitolare (*L'Archivio capitolare della cattedrale di Mantova*, ed. P. Torelli [Verona, 1924]). Milano (*Gli atti privati milanesi e comaschi del sec. XI*, ed. G. Vittani and C. Manaresi [Milan, 1933]). Milano—Archivio di Stato—Museo diplomatico (microfilm at Yale University Library, New Haven, Conn.). Monza (*Memorie storiche di Monza*. Tomo 2: *Cod. dipl. monzese*, ed. A.-F. Frisi [Milan, 1794]).

Nonantola (*Cod. dipl. nonantolano*, ed. G. Tiraboschi [Modena, 1785]). Novalesa (*FSI*, 31-32). Novara—Archivio capitolare (*BSSS*, 78-80). Novi e Valle Scrivia (*BSSS*, 51).

Orvieto (*Cod. dipl. della città d'Orvieto*, ed. L. Fumi [Florence, 1884]). Oulx (*BSSS*, 45). Padua (*Cod. dipl. padovano*, ed. A. Gloria [Venice, 1877-79]).

Parma (*ASPP*, 22, 23, 24, 25, 26, 28; *Le carte degli archivi parmensi del sec. XII*, ed. G. Drei [Parma, 1950]). Piacenza—Registrum Magnum (*BSSS*, 95). Pinerolese (*BSSS*, 3). Pisa (*RCI*, 24). Pistoia—Libro Croce (*RCI*, 26). Pomposa (*Cod. dipl. pomposianus*, ed. P. Federicio [Rome, 1781]).

Ravenna (*Monumenti ravennati de' secoli di mezzo*, ed. M. Fantuzzi [Venice, 1801-04]; *Appendice ai monumenti ravennati*, ed. A. Tarlazzi [Ravenna, 1869-76]). Ravenna—Archivio estense (*RCI*, 7). Ravenna—S. Apollinare Nuovo (*RCI*, 3). Reggio in Emilia (*Le carte degli archivi reggiani*, ed. P. Torelli [Reggio, 1921]). Rezia (*PC*, 3). Rivalta Scrivia (*BSSS*, 59, 60). Rocca delle Donne (*BSSS*, 42).

San Maiolo (*BSSS*, 129). San Matteo de Castello (*Regesto dell' antica badia di S. Matteo de Castello* [Montecassino, 1914]). San Pietro in Vaticano (*ASRSP*, 24, 25). San Silvestro de Capite (*ASRSP*, 22). San Venerio del Tino (*BSSS*, 91). San Salvatore sul Monte Amiata (*ASRSP*, 16). Sant'Alessio all'Aventino (*ASRSP*, 27). Sant'Angelo in Formis

Table 1. Northern and Central Italy

Period	Work	Kind	Mixed	Money
701–750	.20 (18)	.10 (9)	.03 (3)	.67 (60)
751–775	.16 (37)	.18 (43)	.01 (4)	.65 (150)
776–800	.12 (27)	.33 (78)	.04 (9)	.51 (120)
801–825	.15 (92)	.30 (194)	.05 (41)	.50 (333)
826–850	.12 (131)	.28 (287)	.06 (66)	.54 (578)
851–875	.12 (152)	.22 (272)	.09 (101)	.57 (687)
876–900	.05 (70)	.13 (184)	.07 (92)	.75 (1028)
901–925	.04 (50)	.12 (158)	.04 (45)	.80 (989)
926–950	.01 (15)	.09 (138)	.02 (33)	.88 (1296)
951–975		.09 (225)	.03 (48)	.88 (1965)
976–1000	.00 (15)	.10 (324)	.01 (36)	.89 (3057)
1001–1025	.03 (122)	.15 (566)	.02 (56)	.80 (2928)
1026–1050	.02 (63)	.17 (525)	.01 (43)	.80 (2570)
1051–1075	.00 (19)	.19 (667)	.03 (97)	.78 (2805)
1076–1100	.00 (9)	.17 (594)	.01 (57)	.82 (2922)
1101–1125	.00 (15)	.10 (588)	.02 (96)	.88 (4899)
1126–1150	.01 (44)	.28 (995)	.06 (206)	.65 (2271)
1151–1175	.00 (31)	.31 (1694)	.06 (356)	.63 (3463)
1176–1200	.00 (47)	.41 (3428)	.05 (401)	.54 (4470)

Table 2. Southern Italy

Period	Work	Kind	Mixed	Money
701–750				
751–775				
776–800				
801–825				
826–850		1.00 (6)		
851–875		1.00 (12)		
876–900		.50 (6)		.50 (6)
901–925		1.00 (42)		
926–950	.14 (6)	.43 (18)		.43 (18)
951–975		.83 (195)	.01 (3)	.16 (36)
976–1000		.74 (333)	.00 (3)	.26 (114)
1001–1025		.89 (684)	.00 (6)	.11 (78)
1026–1050		.87 (864)	.01 (12)	.12 (120)
1051–1075		.76 (315)	.00 (3)	.24 (96)
1076–1100		.83 (129)	.02 (3)	.15 (24)
1101–1125	.03 (3)	.82 (99)		.15 (18)
1126–1150	.03 (6)	.74 (138)	.07 (12)	.16 (30)
1151–1175	.03 (6)	.82 (153)	.02 (3)	.13 (24)
1176–1200		.70 (138)	.03 (6)	.27 (54)

Numbers given in parentheses represent the number of points awarded each type of obligation in the respective periods, according to the analysis of the surviving leases made according to the method described in the text. The decimals give the proportion the points represent of the total points awarded for each period.

(*Regesto di S. Angelo in Formis*, ed. M. Inguanez [Montecassino, 1925]). Santa Maria di Monte Velate (*RCI*, 22). Santa Maria di Montepiano (*RCI*, 30). Santa Maria di Staffarda (*BSSS*, 11). Santa Maria in Campo Marzio (*Cartario di S. Maria in Campo Marzio*, ed. E. Carusi [Rome, 1948]). Santa Maria in Via Lata (*Ecclesiae sanctae Mariae in Via Lata Tabularium*, ed. L. Hartmann [Vienna, 1895-1913]). Santa Maria Nuova (*ASRSP*, 23, 24). Santa Prassede (*ASRSP*, 27, 28). Santi Cosma e Damiano in Mica Aurea (*ASRSP*, 21, 22). Santi Pietro e Teonista (*BISIAM*, 22). Siena (*RCI*, 8). Siena—Archivio di Stato (*BSSP*, 13, 14). Subiaco (*Regesto sublacense*, ed. L. Allodi and G. Levi [Rome, 1885]).

Tivoli (*Regesto della chiesa di Tivoli*, ed. L. Bruzza [Rome, 1880]). Torcello (*S. Giovanni ev. di Torcello*, ed. L. Lanfranchi [Venice, 1947]). Torcello— S. Lorenzo di Ammiana (*S. Lorenzo di Ammiana*, ed. L. Lanfranchi [Venice,1947]). Torino —Archivio arcivescovile (*BSSS*, 36). Torino—Archivio del duomo (*BSSS*, 106). Torino—San Solutore (*BSSS*, 44). Tortona — Archivio capitolare (*BSSS*, 29). Trento (*RCI*, 27). Trani—Archivio capitolare (*Le carte che si conservano nell'archivio del capitolo metropolitano della città di Trani*, ed. A. Prologo [Barletta, 1877]).

Velletri — Cattedrale (*ASRSP*, 12). Venezia — Archivio notarile (*AV*, 6, 7, 8). Vercelli—Archivio arcivescovile (*BSSS*, 70, 71). Verona (*Cod. dipl. veronese*, ed. V. Fainelli [Venice, 1940]). Viterbo (*BISIAM*, 27). Voghera (*BSSS*, 39, 46, 47). Volterra (*RCI*, 1). Volturno (*FSI*, 58-60).

II. Southern Italy

Archivio Caetani (*Documenti dell'Archivio Caetani*, ed. G. Caetani. *Regesta chartarum*, vol. 1 [Perugia, 1925]). Amalfi (*Cod. dipl. amalfitano*, ed. R. Filangieri di Candida [Naples, 1917]).

Bari (*Cod. dipl. barese* [Bari, 1897-1914]). Brindisi (*Cod. dipl. brindisino*, ed. A. De Leo [Trani, 1940]).

Cava (*Cod. dipl. cavensis* [Naples, 1873-93]). Conversano (*Il chartularium del monastero di S. Benedetto di Conversano*, ed. D. Morea [Montecassino, 1892]).

Gaeta (*Cod. dipl. cajetanus* [Montecassino, 1887]).

Napoli (*Monumenta ad neapolitani ducatus historiam pertinentia*, ed. B. Capasso [Naples, 1885]). Napoli—R. Archivi (*Regii archivi monumenta edita ac illustrata* [Naples, 1845-57]).

San Leonardo di Siponto (*RCI*, 10). San Modesto in Benevento (*RCI*, 33).

BLASTED POTATOES

Digging potatoes by dynamite from the frozen potato patch while alright if necessary in order to get enough spuds for the winter dinner, is likely to injure the keeping qualities of the vegetable.

—From the *Prairie Farmer* (1911)

HAIL TO THE KING "SPUD"

We often refer to the golden cereal as King Corn. In doing so the fact seems to be lost sight of that the potato crop exceeds by a comfortable margin any of the cereal crops of the world. Far behind it in total production is wheat or corn or even the rice crop of China.

According to the statistics of the Department of Agriculture, the crop of the United States is not far either way from 300,000,000 bushels per year, or 3½ bushels per capita. Germany, a country that is little more than twice as large as Colorado, produces 1,600,000,000 bushels or from five to six times as many as the whole United States. The people of Germany, as well as the people of Ireland, in place of using 3½ bushels of potatoes per year, consume 25 bushels per capita. These and other interesting facts regarding the lowly "spud" have been brought to the attention of the public by a bulletin from Colorado, the tenth state in potato production.

—From the *Prairie Farmer* (1911)

CIDER SAVES PIGS

C. T. Avord, of Vermont, when he finds that a sow is inclined to devour her pigs, mixes her feed with cider, until she is somewhat intoxicated. This, it seems, quiets her nerves, and renders her manageable, besides curing her unnatural appetite. Four quarts of good cider is found a large enough dose.

From *Journal of Agriculture* (1858)

A British Investment in Bonanza Farming, 1879-1910

MORTON ROTHSTEIN

In studies of the development of the American agricultural West, considerable attention has been paid to the role of the British investor and particularly those whose operations were on a grand scale. Britons whose private investments in Western lands were more modest have been considered primarily in statistical terms. The investor himself has remained a lesser known figure in terms of his expectations and problems in what was often an uncertain enterprise. The following narrative presents a point of view from the other side of the Atlantic toward a particular experience in American farming.[1]

During the spring of 1879 Stephen Williamson arrived in New York from England and travelled across the continent to San Francisco. One of the founders and active partners in Balfour, Williamson and Company, he was a prominent Liverpool merchant-shipper and was making his first visit to the United States and to his firm's branch house in California.[2] On his return journey that autumn he passed through the Red River Valley, where the "bonanza farm" boom was in full swing. Impressed with the agricultural possibilities of the region, he negotiated the purchase of 1,840 acres of farm land from the St. Paul, Minneapolis and Manitoba Railway near Euclid township, Polk County, Minnesota. An agreement was also reached for a second larger purchase of land adjacent to the railroad and extending farther north into Marshall County. Selection of this larger tract was left to the Land Commissioner of the railway company, whose description and explanation reached Williamson in Liverpool later that year. This purchase totaled 5,627 acres, of which 640 were designated as "meadow lands," and for which a cash payment of $19,805.41 was made.[3]

The "breaking-up time" under the sales agreement was to have run until December 1, 1883, but in his letter covering the remittance of the purchase money, Williamson asked that this be extended an additional year:

> My reason for asking this is that I find difficulty in just getting the man or men I want. I have been negotiating with friends in Fife, but some difficulty or other crops up. If I can begin to the *previous* purchase this year it will be as much as I can manage, and it is clear I cannot satisfactorily touch this Second purchase till 1881. My request is therefore a reasonable one. Of course in ploughing up I may have *more* of one section and *less* of another but in *cumulo* I hope to have it all under crop in good time. . . .[4]

A native of Scotland, Williamson owned a farm there in which he took a great interest and had a large circle of acquaintances in the agricultural community. This interest in agriculture had contributed to his making the American investment, and it had been his original intention to send out several Scottish farmers to work the Minnesota lands. This plan was quickly abandoned, however, and the task of finding even one man properly qualified to act as his agent proved worrisome enough. In enlisting the aid of a friend in this matter, Williamson described the type of person he was looking for and the agreement he expected to arrange:

> Now a young man—*strong, clever*—able-bodied—*ready to work himself* (even though not a farmer himself) if he knows about farming and horses and has prescence to command and work men, good principles and *sober* would be the sort of fellow to go in for this. . . . I want the first beginning to be made this season in ploughing up—Say middle of May—Before this time implements Horses and Shanties, etc. must 'all be got ready. It can be done—the turf back set in Autumn and first Sowing early in 1881.
>
> Now I will charge no rent. I will provide capital for Stock and working etc. and after charging Int.

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[1] Research for this article was made possible through a Social Science Research Council Training Fellowship. The author is indebted to the Hon. G. H. G. Williamson and Mr. Wallis G. G. Hunt of Balfour, Williamson & Company, Limited, Roman House, Cripple Gate Buildings, London, E.C. 2, England, for access to letter-press copies of the correspondence of Stephen and Archibald Williamson, on file in the firm's archives at the above address. Names of persons other than Stephen Williamson and his family have been omitted at Mr. Williamson's request.

[2] Wallis G. G. Hunt, *Heirs of Great Adventure, The History of Balfour, Williamson and Company, Limited* (2 vols., Norwich, England, 1951), 1: 103-110.

[3] *Ibid.*, 1: 127-128; Stephen Williamson, Memorandum of Lands in Minnesota, March, 1880; Stephen Williamson to Mr. P____, Land Commissioner, St. Paul, Minneapolis and Manitoba Railway, December 28, 1881.

[4] Stephen Williamson to D. A. M____, January 22, 1880.

5% on this (not on cost of property) will give my man ½d of the result.[5]

In March, 1880 an agreement was reached with a young farmer from Angus County, Scotland, which provided for a salary of £150 for the first year, in addition to the other provisions. Williamson seemed pleased with his choice and expressed to him the belief that "with energy and determination to overcome all difficulties this business will be eminently satisfactory to both of us." [6]

The agent was furnished with letters of introduction to some of Williamson's business acquaintances in the United states, and a letter of credit for £2,000. The exchange transactions were to be handled by the New York branch of an English shipping firm. A letter to the Land Commissioner of the St. Paul, Minneapolis and Manitoba requested assistance for the newcomer in the form of advice, "a pass at cheap fares," and aid in the shipment of building materials.[7] The young Scotsman arrived at Euclid, Minnesota, the town nearest the newly-purchased tracts in April, 1880 and quickly set about arranging for breaking up the sod. He wrote to Liverpool for permission to contract for much of this work of the first season. Approval for this and other preliminary operations was readily obtained, and he was assured that all necessary charged would be paid.[8]

Williamson asked that a preliminary survey be made of the possibilities of the larger tract, which he expected would prove to be very valuable. He anticipated that a hay crop from the meadow land and profits from any timber on the tract—which he urged should be carefully guarded—would provide a source of income to be applied toward the necessary initial expenses. Along with this attention to detail he expressed the hope that the manager would "exercise an influence for good in Minnesota. . . . The indomitable energy and perseverance of an intelligent Scottish agriculturist will I am sure be felt all about you."[9]

Reports on progress made during the summer of 1880 in erecting improvements and preparing land were satisfactory and plans for future operations approved.

> I especially commend your views as to the folly of having a weak force at Harvest time—and therefore your projected arrangements for self binders and animals I entirely approve of—also your projected stabling accommodation. I am particularly well pleased that you have in view full employment of your hands during the winter. That has always seemed a difficulty to me. If they can learn rough carpentering or such work your permanent hands might be usefully employed in future improvements.[10]

In addition to the one thousand acres which the manager hoped to break and backset with his own force during the next season, Williamson urged that at least two sections be done by contracting, so that they might then "look forward to a large golden Harvest in 1882—and the following year you could perhaps try to double it." In anticipation of fairly rapid returns, he expressed a willingness to meet the "demand for *all well considered expenditures,* knowing that the sooner we get the whole property in full swing the better." Coupled with this willingness was an insistence on the keeping of detailed and orderly accounts of all expenses and income.[11]

Before the end of the year the first such accounting was received along with an estimate of the capital requirements for the coming season. The result was more than Williamson had foreseen.

> It is evident a good deal of money is needed to farm on a large scale. However it is to be hoped you may have a fair Harvest and that will bring in money for further development of the Northern property. You will of course endeavor to be as careful and thoughtful as you can.[12]

This hope that the proceeds from the first harvest would relieve the necessity for further capital outlay was doomed to disappointment. Much of the land that had been cultivated proved to be poorly drained, and the heavy rainfall of that season resulted in a very poor crop. This came as something of a jolt to Williamson, who had seen the Red River Valley at a time when "everything was bright, crisp and dry." [13] That winter the

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[5] S. Williamson to J ____, February 12, 1880.
[6] S. Williamson to R ____ F ____, March 6, 1880.
[7] S. Williamson to Messrs. I ____, I ____ & Co., R. J. C ____, Esq., New York, A ____ G ____, Esq., Chicago, and to D. A. M ____, St. Paul, All Dated March 10, 1880.
[8] S. Williamson to R. F ____, April 24, 1880.
[9] *Ibid.*
[10] S. Williamson to R. F ____, October 22, 1880.
[11] *Ibid.*
[12] S. Williamson to R. F ____, January 4, 1881.
[13] Hunt, *Heirs of Great Adventure,* 1: 128; S. Williamson to R. F ____, September 22, 1881.

manager returned to England to discuss the situation with his employer, after which Williamson took up the matter with the new Land Commissioner for the railway.

In language which did nothing to disguise his feeling of chagrin and frustration, he demanded assurances that a deep drainage ditch which the railway promised to provide would intersect his land. "Without it I conclude the Land is practically valueless." The railroad officials apparently smoothed things over, for the ditches were dug and there is no further record of correspondence with them.[14]

The following year proved more favorable and a good crop of wheat and oats was brought in, the wheat being sold immediately and a large portion of the oats stored for feeding the livestock. Some plots were let to two tenant families early in 1882, and a loan of $1,000 advanced to one of them. Besides providing another source of income from the land, it was hoped the tenants would accomplish some further breaking and backsetting, thus helping to meet the requirements of the purchase contract. Williamson, however, was "ready to take the risk of not entirely following the Contract to the letter. . . . The railway will be reasonable I am sure." [15]

By this time Williamson was determined that demands on him for additional capital must cease, and insisted that further breaking of the land and building improvements be limited by the proceeds of crop sales. He suggested that it might be better to contract for the sod breaking rather than continue buying mules and horses. About 200 animals had been bought, "which it seems to me must be idle a long time every year," and the quoted price of $200 per mule seemed unreasonable. Indeed, rather than proceeding in the "bonanza farm" fashion, he hoped to sell Kilrenny Farm, as the more poorly drained portion had been named, and place the rest of the property in the hands of tenants. This course had been strongly advised by a friend in Scotland whom he had consulted.[16]

Another cause of anxiety was the proclivity of the manager—perhaps influenced by the "boom" spirit of the community—to become involved in activities which met with Williamson's stern disapproval. When the town of Euclid had sought funds for building a church, he urged that the "Scottish agriculturist" subscribe "at least $200 and charge it to farming expenses. . . . I hope you and thoughtful neighbors will do all you can to *discourage* the Saloon and to *encourage* the Presbyterian Church." The manager soon went beyond participation in this sort of community affair to become a promoter for a projected local railroad company. After consolidating Williamson's holdings by purchasing the Euclid school section, he went into the more speculative buying of town lots in his own name. About this time he also approached Williamson on the subject of a grain agency for selling wheat direct on the Minneapolis market. Anything which would divert time and energy from what the owner felt should be the manager's sole concern—making the farm a paying proposition—was vigorously opposed. There was also the fear that the manager would be tempted to use "funds which are solely to be devoted to these farming operations." [17]

During the winter of 1882-83 the manager returned to Britain for a second time in order to report in person on progress made, consult about future policy and render a more complete accounting of capital expenditures. After their meetings, Williamson remained with the impression that his agent was "straight" and doing "as well as anybody from this country could do in like circumstances." Both men, however, were dissatisfied with the state of affairs after their third full season of operations: the manager because it was taking such a long time to get the farm to a point where he might participate in the promised profits; Williamson because it was "taking more of my thought and has taken more of my money than I counted on." They decided on a new arrangement in which the Scottish farmer would take over the entire investment, paying Williamson the principal and interest out of future earnings.[18]

Up to this time the capital outlay, exclud-

[14] S. Williamson to Mr. P ___, St. Paul, December 28, 1881.
[15] S. Williamson to R. F ___, October 10, 1882.
[16] *Ibid.*
[17] S. Williamson to R. F. ___, October 28, 1880; September 22, 1881; February 2, 1883; Hunt, *Heirs of Great Adventure*, 1: 128.
[18] S. Williamson to J ___, January 2, 1883; S. Williamson to R. F ___, February 2, 1883.
[19] S. Williamson to J ___, January 2, 1883.

ing the cost of the land, was $70,847. Added to this on the debit side was $1,350 owed for machinery and $1,250 owed for wages, bringing the debit total to $73,447. The credit side, "after realising his crops" was recorded as follows: [19]

Buildings — Cost	$13,097.	
Breaking & Backsetting	15,020.	
Argyl 2130 acres		
Kilrenny 1400		
3,500 at 4.50		
[The remainder of the holdings were still largely unbroken]		
Land—School section at Euclid paid for	3,413.	
Machinery	13,750.	
Live Stock	14,951.	
House Furnishings	1,300.	
Advance to S___s	1,213.	[tenants]
Seed wheat on hand	4,000.	
Seed oats on hand	1,000.	
Oats to sell—say	2,000.	
	$69,744.	

The deficit was chalked up to the crop failures on Kilrenny Farm. Williamson set down his manager's comments on this accounting:

> Buildings he says are cheap and good, and well worth the money expended. Breaking really only costs as above 4.25 and is well worth 4.75 to $5 by contract now. Machinery I think has a deduction made for wear, but most of it is new. Livestock is total cost. Some few losses have been made and not deducted. F____'s estimate being that the existing Stock from rise in value is well worth the Balance . . . [shown]. S____s are very decent man, but poor and needed help to start. The money is secured by Chattel Mortgage.[20]

A third tenant had "leased" some portions of the property, under arrangements described as follows:

> We provide the land broken and ploughed. We pay for the subsequent breaking up of additional acres—also for harrowing and seed—and for stubble ploughing in autumn at fixed rates—and get half the crop. We have also of course to build Dwellings and Barns. All this costs money, but I am inclined to think this is a better way to work the Land than farming it all ourselves.[21]

The results of the 1882 harvest led Williamson to retain a rather optimistic attitude toward the investment. The drainage ditches had been working well and the yield was good. A rough accounting of the year's operation submitted by the manager, "not including the cost of breaking, tear and wear, depreciation of Buildings & machinery, and his superintendence," showed that the sales of the crop came to $16,514 and just covered the costs; but there was also a good surplus of seed wheat and oats over what had been used for the year.[22]

During negotiations over the new agreement it was necessary to arrive at a determination of the value of the land itself. The area close to the railway had all been taken up, and in placing Kilrenny Farm on the market the manager had asked $18 to $21 an acre—a price that included improvements and buildings. Williamson was willing to take $12 an acre if it could be sold quickly. The new tenants were reported willing to pay $25 an acre for their improved land. "Mr. F—— thinks the entire properties with improvements, Stock and Machinery worth $150,000 as it now stands." Figuring the 2,480 acres of Kilrenny Farm at $12 an acre, the 2,130 acres of improved land at $20 per acre, and the balance of 3,500 acres of unbroken land at $10 per acre, Williamson arrived at a more moderate estimate of $136,360.[23]

It was on this basis that Williamson sold to the manager all his holdings and improvements in the Red River Valley for $136,000, payable in ten years. Interest at the rate of 6 per cent would begin to accrue after the harvest of 1884 and the new owner was to be responsible for any small obligations outstanding. To make the transition easier, Williamson placed credits at his disposal in New York up to £2,500, "to be repaid to me out of the proceeds of your first Harvest," but if this should be inconvenient he was willing to wait until the 1884 crop was sold. He urged that the Kilrenny Farm be sold as soon as possible and the proceeds used to reduce the debt. On the other hand, he advised that no other part of the land be sold, having "a strong opinion as to the great value ultimately of that property." [24]

Although he now considered himself rid of the problems connected with operating the

[20] *Ibid.*
[21] *Ibid.*
[22] *Ibid.*
[23] *Ibid.*
[24] S. Williamson to R. F____, February 2, 1883; Williamson's Memorandum of Agreement, February 13, 1883; S. Williamson to R. J. C____, New York, February 13, 1883.

farm, his "strong opinion" was soon to be severely tested. The next two years brought poor crops, while prices in the area were declining to a point where wheat was selling at 60 cents a bushel.[25] Although more land was being let to tenants, losses were heavy and Williamson was asked for more capital—a request he refused. In February, 1885 he disconsolately observed that ". . . my property investment in Minnesota is a dead loss. The Farmer is ruined and has been obliged to borrow money on it at 10% interest. It has *all gone*, I greatly fear!" A few months later the "Farmer" requested that the principal on his debt to Williamson be reduced and added insult to injury by asking for a loan of $10,000 with which to establish a grain business. Both requests were turned down in no uncertain terms.[26]

In October, while Williamson was engaged in political activities for the Liberals, word came from his former employee that the enterprise could not be continued and that he wished "to hand over the whole concern again." Faced with this possibility Williamson tried to work out some solution with his man in Minnesota.[27]

> Up till now you must admit that I have not been a hard taskmaker. I have had many worries and disappointments and but little satisfaction as you must know. You have occasionally spoken of selling parts, but nothing seems to have been done.
>
> Would it not be wise to make some systemized effort to sell the property in portions to good men who could pay a good part if not all the price?
>
> Failing this would it not be wise to let all the Farms to Tenants for money rents? You might give the Tenants the option of buying.[28]

Mr. F—— apparently agreed to stay on through the 1886 season, continuing the farming operations and sending accounts to Williamson, who was annoyed and perplexed by their incompleteness. Several of the items were questioned. "The taxes seem to be excessive. Have you not remonstrated against them?" He also suggested that it might be better to sell the livestock and equipment to the tenants and get a smaller quota of the crop.[29]

Efforts to sell the properties, in whole or part, were unsuccessful and with the end of seeding time came a renewed demand that Williamson renegotiate the price of the property or accept retransfer. The exasperated Britisher, now in the midst of a campaign for a seat in Parliament, sent his son, Archibald Williamson, to investigate the situation on the spot and discuss with F—— the "best method of adjustment."[30] At the end of August, 1886 Archibald reported from Euclid, recommending repossessing the property and intimating that some of the funds which were advanced had been misused. Williamson was now thoroughly perplexed, for repossession would only mean "continued worry—weekly and yearly." As for the debts which had been incurred:

> . . . I conclude the enormous deficit arises from his own farming and his own acts, and I am at a loss to account for it. It is grievous to bear. That is not the worst. Even if I provide the money and pay off the mortgages am I in the way of ever getting the money back. I am convinced it is a complete mistake for any one in this country trying to make money out of owning Land and farming in the Red River Valley. Only a hard working farmer with Sons able to work with him can make the two ends meet.[31]

"Utterly disgusted" with the whole thing, Williamson gave his son full power to straighten out the affair. The property was repossessed, the debts paid, and the ex-manager's father (who had come to Minnesota a few years previously to help run the farm) was put in charge with instructions to rent as much of the land as he could on shares. From this time on the over-all management was in Archibald Williamson's hands, the subject remaining a touchy one where Stephen was concerned.

Misfortune continued to hound the enterprise. In the autumn of 1888 a storm swept the region and removed about three inches of topsoil, with all the recently sown seed, and blocked all the drainage ditches. When Stephen Williamson, on a second visit to his firm's branches in the United States, passed

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[25] Hunt, *Heirs of Great Adventure*, 1: 128; George N. Lamphere, "History of Wheat Raising in the Red River Valley," Minnesota Historical Society, *Collections* (1900-1904), 10: 25-26.

[26] S. Williamson to H ___, Feb. 13, 1885; S. Williamson to R. F ___, April 30, 1885.

[27] S. Williamson to J ___, October 24, 1885; S. Williamson to R. F ___, October 24, 1885 and January 1, 1886.

[28] S. Williamson to R. F ___, January 1, 1886.

[29] S. Williamson to R. F ___, February 25, 1886.

[30] S. Williamson to R. F ___, June 21, 1886.

[31] S. Williamson to "Archie" Williamson, Euclid, Minnesota, September 25, 1886.

near the Red River Valley in the autumn of 1889, he could not even be persuaded to visit the property.[32] Two years previously he had written off about half of his investment of £28,000 as a loss, although indicating that he received about £2,000 in income from the property that year.[33]

In 1892, while discussing the affairs of an acquaintance who had acquired some 10,000 acres of land in Canada, Stephen referred to his own "bitter experience" in these terms:

> My conclusion is that if I had got my Land (8,500 acres) for nothing—although it is fine land, I would have been better off today if I had not accepted it. I bought my Land in the Autumn of 1879. It has the advantage of being close to a Railway Station, and is of fine quality. "Bonanza farming" you may take my word for it won't pay either in Minnesota or Manitoba.[34]

During the following year he placed his loss "irrespective of interest at £15,000 to £20,000." In 1897 he presented the property as part of a bequest to Archibald Williamson, placing its value at £5,000.[35]

Archibald had made occasional trips to the Red River Valley and had remained active in supervising the property's management. Most of the land was worked by tenants, with an option to buy, and continued efforts were made to sell outright. These efforts were stepped up by about 1904. The original manager's father had stayed on as the agent and was by then anxious to finish his job and move on to California. Both he and Archibald were disappointed in the sales, which were small despite the fact that the latter was "willing to make the price moderate."[36]

While it was still necessary to advance money to tenants for seed, livestock, etc., and to provide additional buildings on newly divided lots, these expenses were now more than ever to be kept to a minimum. Archibald, in a letter to the manager, summed up the situation in this way:

> In the circumstances our business is to sell, although I am inclined to agree with your view that when next a land boom comes in your neighbourhood prices will probably run from $30 to $40 an acre instead of $20 to $25. I have no fear, whatever, of the ultimate outcome. The difficulty is rather the personal one connected with your own age and movements, as well as the fact that I could well employ the money obtained in other ways, and might as well be out of it completely now that I have sold so much.[37]

With wheat prices rising, it was decided that $25 an acre would be asked for the remaining land, but "I would not lightly put aside a firm offer of $20 cash for the whole." Negotiations were opened with several land investment companies and by the summer of 1905 the last deal was made. The price received was about $20 per acre, for a total of approximately $67,000, payable within five years at 6 per cent interest. This sale completed the task of liquidating the estate, the rest of the holdings having been sold in sections to other land companies or prosperous farmers at interest rates ranging from 5 to 7 per cent, or in small lots to tenants at 8 per cent.[38]

The only difficulty remaining was the collection of payments and interest in connection with these sales. Purchasers of small tracts had often fallen behind in their payments, and had to be threatened and cajoled into living up to their contracts. Williamson was extremely reluctant to resort to foreclosure, realizing that "these legal matters would drag on perhaps 3 years—no money comes in—the property goes from bad to worse and a resale to other parties is out of the question."[39] Interest payments were sometimes defaulted for years, and the taxes allowed to fall in arrears, bringing to the seller the fear of confiscation. In 1902 one section was sold for $16,000, $3,000 in cash and the balance due in five years at 5 per cent interest. When the due date arrived the interest was paid but the buyers offered only $5,000 and requested an extension for the payment of the other half of the purchase price. This was granted and the balance of $8,000 plus 6 per cent interest was paid in January, 1909. The relatively easy compliance in this as in other larger sales was facilitated by selling on a "contract for deed"

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[32] Hunt, *Heirs of Great Adventure*, 1: 165.
[33] S. Williamson, Memorandum as to Capital, February 2, 1888.
[34] S. Williamson to Mr. S ____, February 16, 1892.
[35] S. Williamson to ____, September 23, 1893; S. Williamson to A. G ____, March 14, 1897.
[36] A. Williamson to P. F ____, June 13, 17, 28, 1904.
[37] A. Williamson to P. F ____, July 14, 1904.
[38] A. Williamson to J. L ____, San Francisco, December 19, 1904; A. Williamson to P. F ____, October 11, 1904; A. Williamson, Listing of Tenant's Accounts, 1903-1905.
[39] A. Williamson to P. F ____, October 11, 1904.

basis whenever possible, rather than transferring title and accepting a mortgage.[40]

In 1905 the elderly manager, who had spent over 20 years in the Red River Valley, moved to California, returning to Minnesota once or twice to make collections. Otherwise the business of collecting outstanding payments, transferring deeds, etc., was turned over to a local attorney. By 1910 the final payments had been made and Williamson's affairs in the region brought to a close.[41]

What can be said of the final outcome of this investment? Unfortunately not enough data are available to determine this with any great exactness. It was certainly not as disastrous as Stephen Williamson's later remarks would indicate. Using the figures supplied by his correspondence, it is apparent that the capital expended on improvements, buildings and livestock brought the per acre investment from the purchase price of about $5 to about $20. It seems fair to assume, from scattered references in Archibald Williamson's correspondence, that the bulk of the land was resold at roughly the latter figure, thus recouping much of the principal. Not even an estimate can be given for expenses or income other than from sales after 1885, but occasional comments in Stephen Williamson's letters after that date and the determination of his son to liquidate the holdings would indicate little or no profitability from the farm operations. All this is to say nothing of the interest on the capital outlay for much of the 30-year period.[42] In short, this was another instance of a land investment in the American West in which British fingers were burned.

[40] A. Williamson to Messrs. O___ & H___, November 1, 1907; to Balfour, Williamson & Co., New York, December 10, 1907.

[41] A. Williamson to C. D. O___, January 25, 1905; A. Williamson to J___ L___, December 19, 1904; to P. F___, December 19, 1905, November 19, 1907, December 30, 1907; and January 27, 1909.

[42] For the importance of including consideration of compounded interest in discussing the "profitability" of land investment see Allan G. Bogue and Margaret Beattie Bogue, "'Profits' and the Frontier Land Speculator," *The Journal of Economic History*, 17: 1-24. (March, 1957).

HINT TO MILKERS

If you have a cow that annoys you by whisking her tail in your face, while milking, as some do, I give you a simple remedy.

Take a stout wire about 8 inches long, and make a small loop in one end, in which you can tie a string. Then bend the wire near the middle into a pretty sharp angle, making a hook that will take hold of the brush of the tail a little above the lower extremity of the bone. Have a loop in the other end of the string, by which you hang it to a nail in the timber over the cow, or a little to her left, having the string short enough to raise the brush of the tail about a foot. The same hook can be used for any number of cows that have this disagreeable trick.

This is a simple but effectual remedy, and well worth knowing by any milker, who would keep his temper and his clean collar.

—From the *Country Gentleman* (1867)

BAROMETERS FOR THE FARMER

Put a leech in a large vial, and change the water every week in summer and twice a month in winter. Space should be left above the water, for the leech will crawl up and place himself above the water on the side of the glass when there is to be rain; and if a thundershower, he will dart through the water as if crazy. In dry weather he will settle quietly at the bottom. A cloth should be placed over the mouth of the vial to keep him in.

—From the *Country Gentleman* (1867)

Cattle Disease (Rinderpest?)—Prevention and Cure in Brandenburg, 1665-1732

Reinhold A. Dorwart

In the early eighteenth century a serious epizoötic outbreak affecting most of Europe threatened to destroy the cattle herds of the Hohenzollern Territory of Brandenburg in Northeast Germany. The danger to Brandenburg of an epidemic of a rinderpest-like cattle disease, between 1709 and 1716, stemmed mostly from the eastern European territories of East Prussia and of Poland. The disease, probably of Asian origin, was carried from southern Russia to Baltic and Central Europe by Swedish and Russian troops. In a decade of time the disease swept westward and reduced the cattle herds of Europe in the order of several million.

To a large extent the threat to the cattle herds of Brandenburg from this epidemic was warded off by the first efforts at a scientific approach to the problem of cattle disease between 1711 and 1732. The measures taken to prevent disease, to isolate it once it had broken out in local areas, the efforts to identify the symptoms and to discover satisfactory and effective remedies for the disease offer an interesting historical insight into the status of veterinary knowledge and practice in the first decades of the eighteenth century.[1]

The systematic efforts exerted towards the prevention and cure of rinderpest-like disease in Brandenburg were the results of direct governmental legislation and directive. The progress made in combating the disease, as well as the development of veterinary science were dependent upon the concern and support of the paternalistic rulers. Obstacles to this progress were the selfishness and greed of the individual owner, reliance upon traditional but unproved remedies, and above all, the difficulty of assembling data on the nature of the disease.

Seventeenth Century Attitudes. Prior to the threat of 1711 there had been some indication of the awareness of the spread of disease by infection from dead cattle, as may be judged from seventeenth century regulations governing the disposal of dead animals. However, there is no indication that there was any scientific discrimination between cattle actually diseased and those dying from other causes. The danger seemed to be recognized more as stemming from the putrefactive state of the carcasses. For many years all landowners, noble and peasant, had been required by law to surrender any and all dead cattle to the public executioners and skinners. In return for disposing of the carcass, the executioners used part of the meat for baiting wolf traps while the skinners made leather buckets out of the hides. In neither case was there assurance that any diseased carcasses could not still serve as sources of infection. No discrimination was as yet being made between the dangers of putrescence and those of contagious infection. Whatever the danger posed by the dead animals, there was a marked failure, particularly on the part of noble landowners, to comply with the regulations. Dead cattle were disposed of by local burying, by throwing them in rivers and streams, or by permitting dogs to eat the carcasses. Between 1665 and 1682 Frederick William, the Elector of Brandenburg, issued several edicts ordering the nobility to inform the public executioners of any dead cattle on their estates.[2] That the basic purpose of disposal by public

[1] The first quarter of the eighteenth century witnessed a dynamic expansion of effort to promote the medical sciences and the cause of public health in Brandenburg and in Berlin. Paralleling the systematic efforts aimed at understanding and control of epizoöty were similar efforts aimed at controlling the bubonic plague. (See Reinhold A. Dorwart, "Fighting the Bubonic Plague in Brandenburg, 1709-1714," to appear in *Medical History*. The establishment in Berlin of an Anatomical Theatre (1713), of a College of Medicine and Surgery (1724), the expansion of pharmaceutical education to incorporate the new chemical advances were all in keeping with the new scientific spirit manifested in the search for a means of preventing and curing cattle disease.

[2] Christian Otto Mylius, ed., *Corpus Constitutionum Marchicarum* (Berlin, 1740), 5: Part 4, 423-424 (No. 1), Patent of 14 September 1665. See also *ibid.*, 5: Part 4, 424-425 (No. 2), Patent of 1667 and 5: Part 4, 425-428 (No. 3), Patent of 1682. These patents reveal as much concern over the violation of the privileges of the executioners and skinners to dispose of carcasses as for the prevention of disease.

executioner was to prevent the spread of disease was stressed in a Patent of 24 July 1684 [3] which specified that the public executioner was to remove the reported carcasses and to bury them within 24 hours or else the owners were to be permitted to bury them.[4] Until 1711 these precautions were normal and routine preventive measures against the spread of disease due to the putrescence of dead cattle. But in this year the spectre of a genuine epidemic of cattle disease faced the Hohenzollern lands between the Elbe and Oder Rivers.

The Challenge of the Epidemic of 1711. One of the tragic consequences of the Great Northern War (1701-1721) in which Sweden and Russia were the principal contestants was the introduction of two forms of epidemic into Europe from the east. The last visitation of the bubonic plague occurred in Europe between 1709 and 1722. The rinderpest-like epizoöty erupting in southern Russia in 1709 spread to East Prussia, Poland and Silesia. By 1711 the disease had gotten out of control and was spreading westward into Pomerania and Brandenburg. The threat of general epidemic to the cattle herds of Brandenburg resulted in the ordering of stringent protective measures by King Frederick I on 7 December 1711.[5]

Prevention and Isolation. Among the first precautions ordered was a quarantine plan. No horn-beast was to be shipped into Brandenburg from Poland, Silesia or East Prussia unless it had been in quarantine for eight days on the borders. If none died in that period the cattle were to be allowed to pass. In East Prussia the seller of cattle was required to possess an affidavit that the place of origin of the cattle had been free of disease for three months. The epidemic continued to be serious for a number of years and the new king, Frederick William I, in 1714 and 1716 [6] reaffirmed the shipping restrictions of 1711 in order "to prevent the ruin of the land." Certified or approved cattle offered for importing or transiting his lands were to have a royal FW branded on the right horn. Cattle markets in Brandenburg were closed. By September, 1717 it was reported that disease among horn-cattle had ceased in East Prussia and the neighboring lands, and restrictions on movement and sale of cattle were lifted.[7] But a month later the King regretfully noted that the disease still occurred in Holstein and Bremen to the west. Modified restrictions accordingly were restored limiting importation of cattle from these infected areas. Quarantine and import restriction plans persisted as one of the basic prevention measures. An Edict of 24 December 1729 [8] directed that whenever authentic word was received that disease had broken out in neighboring territories, as in Poland, Frankfort-on-Main, and in the Palatinate, provisions of existent edicts were to be activated immediately. These would restrict or forbid the movement of cattle within the King's provinces or the importation of cattle from foreign countries unless such cattle were accompanied by sworn statement that there had been no occurrence of the disease for the previous three months in the places of origin.

If the disease could not be kept beyond the frontiers by quarantine or controlled import, the next step was to attempt to isolate it wherever it might occur within the frontiers so that it would not develop into epidemic proportions. By the Edict of 1711, the King's subjects were forbidden to place in common pasturage any cattle which were unhealthy or suspected of disease. If some cattle died in the stalls the remaining animals were not to be put out to graze until the owners had received from the local authorities an affidavit certifying that there had been no re-occurrence of disease in such stalls for three months. Without such evidence and authorization the neighbors were permitted to keep such suspected cattle from the fields, or if the owner persisted in pasturing them to shoot them and to bury them at once.

There existed, thus, an awareness of the danger of contagion. This was emphasized by the King's declaration that disease among cattle spread because too frequently an animal which dropped dead either was not buried or was thrown into the streams. It was

[3] *Ibid.*, 5: Part 4, 427-428 (No. 4).

[4] The official concern for proper disposal of dead cattle was extended from Brandenburg to the Duchies of Magdeburg and Pomerania and to the Principality of Halberstadt by edict of the Elector of Brandenburg on 22 April 1689, *ibid.*, 5: 427-430 (No. 5).

[5] *Ibid.*, 5: Part 4, 433-434 (No. 8).

[6] *Ibid.*, 5: Part 4, 439-442 (No. 13).

[7] *Ibid.*, 5: Part 4, 443-444 (No. 17).

[8] *Ibid.*, 5: Part 4, 459-476 (No. 27).

maintained that the practice of stripping hides and cutting out the suet, as well as the simple malodor, served to infect other animals. Accordingly, the King ordered all his subjects to bury at once any cattle which dropped dead, in a grave five ells deep, and to cover the carcasses with quicklime. No hides were to be removed, no suet was to be cut out. At the same time disinfection of places where cattle had died, whether in field or in stall, was ordered. In the field an area of one to two square rods was to be ploughed under. Stalls, racks and buckets which had been used by the dead cattle were to be thoroughly washed with hot lye. Infected animals were to be isolated immediately from the healthy.

Cattle owners did not take to the restrictions of isolation and quarantine cheerfully. In the Edict of December, 1729, the King observed that there was much complaint that residents in town and country, out of pride, frequently failed to report a death among their cattle arguing that it was only an isolated occurrence. As a result, the disease grew out of control and caused great loss. The King ordered that all cattle deaths in his territorial villages were to be reported to the village magistrate and by him to the county commissioner *(Landrat)*. If failure to do so resulted in spread of the disease, punishment for the guilty would be corporal and sentence at hard work on fortifications.

An important improvement by 1729 was the requirement of a post-mortem examination of internal organs by town or county physician, or other medical personnel, as soon as proper authorities had been advised of disease and death among a herd of cattle. If the internal evidence indicated contagious disease, then the healthy cattle were to be separated from the infected, removed from the infected barns, as were also all feed, hoppers, litter and manure which had been in contact with the infected animal. If some among the isolated healthy cattle came down with the disease, they were to be returned to the original stalls.

Herders and caretakers attending the infected cattle were instructed not to wear clothes of wool or fur but to wear clothes of linen or leather to avoid carrying the disease. After deaths had ceased, these men were not to care for healthy cattle until they had decontaminated the infected stalls, soil, feeding and drinking equipment (with lye and garlic), as well as themselves and their clothes. Dead cattle were to be buried without removal of hide, suet or horns, in pits five feet deep so neither beast nor fowl might dig them up.

Quarantine to prevent infection by contagion included more than cattle and caretakers. In case of an outbreak, county commissioners and rural local magistrates were made responsible, by the Edict of 1729, for preventing residents of affected villages from travelling to other villages. The person or persons whose cattle were first affected were likewise to be kept isolated from their neighbors within the village. In infected and surrounding villages dogs were to be chained and all loose dogs shot. If post-mortem examinations revealed that cattle had died from a contagious disease, then the county commissioners were required to post peasants around the infected village and to keep it isolated day and night for the protection of the uninfected villages. Neither persons nor animals were to be allowed to emerge from such quarantined areas. Food and fuel for the villagers and fodder for the cattle, if necessary, were to be furnished by the county. Guard duty was rotated among the surrounding villages which obviously had an interest in confining the area of infection.

During an outbreak, daily reports were to be made via channels from local areas through provincial governments to the College of Sanitation in Berlin. Exact conditions and statistics were to be reported on how many cattle before the disease, the number dead, the number sick, the number recovered from the disease, and the number uninfected. When the disease had run its course, barns and stalls were to be aired out, all woodwork was to be thoroughly scrubbed with lye and salt, all whitewash was to be removed and replaced, and all litter and rubbish buried deep. After the stalls were sanitized by scrubbing they were fumigated with burning sulphur or gunpowder before being used again. Any remaining hard feed (e.g., oats and barley) could be fed to horses and sheep but not transported nor used near horned cattle. This could be done safely, it was de-

clared in 1729, because it had not yet been observed that this disease among horn-cattle was infectious among other animals.

Before the guard was removed from an infected village and communication and cattle dealing restored, local residents had to certify in writing that all decontamination measures had been carried out, that all infected clothes of herders had been fumigated, and that the recovered cattle had been quarantined for 14 days.

Recognition of Symptoms. One of the major problems in preventing the spread of cattle disease to epidemic proportions was the recognition of the disease when it occurred. Danger of infection by contagion had been recognized at least as early as the seventeenth century. Therefore, if isolation and quarantine were to be the major preventive measures against epidemic, it would be necessary to identify and recognize the symptoms. The first genuinely systematic efforts at a scientific approach to the understanding of cattle disease in Brandenburg began in 1711. The Edict of 1711 which essentially offered preventive measures in the form of isolation also took the first step in the direction of scientific investigation. Its final provision directed the circulation of printed questionnaires in the areas where the cattle disease existed among the farmers who lost cattle and among the skinners who disposed of the carcasses. The questionnaire consisted of 15 questions the answers to which, it was hoped, could furnish information throwing light on the nature and the symptoms of the disease. Then, it was proposed to prepare a publication suggesting remedies.

From the accumulated experiences with the epidemic between 1711 and 1716, and on the basis of the answers to the questionnaires required since 1711, Frederick William I in 1716 issued a bulletin, "A Basic Instruction On How To Recognize The Cattle Disease, How To Protect The Healthy Cattle From It and How To Cure The Sick."[9] Several other edicts followed in succeeding years prescribing procedures to follow until a major summary of all procedures on precaution, prevention, recognition and remedies was made in the important Edict of 24 December 1729, mentioned above.

According to the Basic Instruction of 1716, the disease was described as producing a noticeable and strong shuddering over the whole body and skin of the animal. The infected animal suffered from loss of appetite, hung its head almost to the ground and appeared drowsy and listless. Breath was hot and foul, eyes were inflamed. The mouth and tongue were dry and hot and often black, while boils and blisters appeared in the throat. Animals drank more than usual. With some there was both stoppage of urine and constipation, others suffered from diarrhea, still others from much belching. In most cases all teeth became loose.

In 1723 the Principality of Halberstadt, adjacent to Brandenburg and also ruled by Hohenzollern, was the scene of another study of the disease. The provincial government, prompted by the severity of the epidemic, requested two physicians to make an investigation into the cause of the cattle disease *(in causam huius morbi inquiriren)*.[10] The physicians were the Territorial Physician, Dr. J. W. Röseler, and the City Physician of Halberstadt, Dr. A. Ph. Bornemann. Veterinarians as specialists in animal diseases were as yet unknown.

For their purpose the physicians were instructed to obtain from the public executioner one or two carcasses of dead cattle, cut them open and observe whether or not the disease was contagious or what its nature was. The physicians reported that study of the viscera of several dead animals revealed nothing unusual or abnormal about the heart, lungs, liver, and spleen but that the gallbladder was extraordinarily large, the intestines were inflamed and full of foul matter. As for the nature of the disease they reported that an attack occurred suddenly, began with a chill trembling and loss of all strength by the animal, was followed by a high fever, hot foul breath, and a great thirst. Then followed diarrhea and passing of abominably foul matter mixed with blood. This continued from two to five days until the infected animal died. They observed

[9] *Ibid.*, Appendix I, 5: Part 4, 467-471 (Nos. 14 and 27).

[10] *Ibid.*, Appendix II, 5: Part 4, 471-476 (No. 27), "Physical and Medicinal Research in Cattle Disease and Recommended Remedies of 6 December 1723."

that the fat ones died sooner than the lean, and that bloodletting only hastened death. The inadequacy of veterinary knowledge in 1723 relative to this cattle disease was underscored by the physicians' confession that "whatever became infected died and infected others." The physicians agreed that this cattle disease was easily communicated by breath, that healthy cattle might become infected from people, dogs and cats which had had contact with infected animals, and that the disease stemmed in part from diseased or unclean pastures. It is likely that the 1729 requirement of a post-mortem examination for pathological purposes resulted from the Halberstadt investigations and findings.

Search for Preventive Remedies and Cures. The final step in this first scientific inevstigation of epizoöty was an effort to discover remedies which might prevent contagion or which might cure disease once an animal had become infected. The effort would produce a curious mixture of traditional remedies and products of the new chemistry. The greatest weakness was the lack of controlled experiments.

The Edict of 1716, responding to the information acquired from the questionnaires which threw some light on the nature and symptoms of the disease, offered a number of remedial measures of a preventive nature. A suggested means of prevention was bloodletting by piercing the main artery *(Bruun-Ader),* under the tongue. It was recommended that horses were to be fed a half spoonful of powdered mustard seed mixed with a handful of moistened oats early each morning an hour before regular feeding. Cattle were to be fed *theriaca diatessaron* two or three times per week. Early in the morning cattle were to be fed with fennel and dill seed spread over buttered slices of bread. Two or three times each week a clove of garlic was to be thrust down the gullet. With horses especially, but also for cows and pigs, it was said to be beneficial twice weekly to feed to the animals in moistened fodder a powder of oxide of antimony and saltpeter. It was further suggested that the stalls should be kept clean; fumigated occasionally; that fresh, clean straw should be provided daily; and that the cattle themselves should be kept clean by daily grooming. The stress on sanitation in 1716, as well as in 1729, emphasized contemporary appreciation of the element of contagion by contact. But this produced only preventive measures.

Progress in developing remedies for the disease was not so marked. The Edict of 1729 admitted that all conceivable medical remedies had been applied but with no apparent favorable effects. No remedies were known by which cattle, unable to resist the disease by their own mettle, could be saved. The conclusion was recorded in 1729 that "there is nothing more that can be done to overcome the disease than to follow the preventive precautions ordered by various edicts."

The search for remedies went on, however. The methodological approach and the scientific efforts made were more important than some of the seemingly strange suggestions made. In the Edicts of 1716 and of 1729 certain internal and external remedies were prescribed as soon as the symptoms of disease manifested themselves. External measures included letting blood unless the disease was two or three days old; branding both sides of the neck with a broad, hot iron; insertion of a rowel under the mouth in chin or breast; and piercing of the nostrils and ears with a punch and pouring in two or three spoonsful of vinegar.

Internal remedies of the time included a powder of oxide of antimony, saltpeter and sulphur to be administered every four hours in a warm drink, and a powder prepared from the following herbs and roots: scordein, bitterherb, ruewort, sage dictamnus, bennet, angelica, carline, anacamptic, common septfoil, salsify, juniper berries and laurel. The powder thus compounded, it was stated, would not suffer in efficaciousness if some of the herbs were lacking. The herbs might also be cooked up in beer. If the animals were unable to urinate (due to stricture of the urethra) it seemed useful to give them a brew of parsley, crab's eyes and laurel, while at the same time inserting some salt in the urethra *(Schlauch).* If boils or blisters occurred in the gullet or on the tongue they might be washed daily with a mixture of ashes, sulphur, salt and vinegar. If the boils and scabs threatened to block the throat, the owner was advised to insert into the gullet

daily a willowstick smeared with butter to provide for passage of air. It was suggested that closed blisters could be treated with broiled onions and opened blisters with tar.

The suggested remedies of 1716, which were again published in 1729, were by no means laboratory-proved nor were they considered effective. The Edict of 1729 attached another set of recommended remedies which stemmed from the investigations made in Halberstadt in 1723. The investigating physicians had reported that all the usual remedies had failed, e.g., brandy, laurel, juniper, tar, herring, *aqua mirabilis*, and sulphur. These physicians suggested other remedies: an antidote of theriac and scordium, a powder of antimony and natron, or a drink made of scordium, sage, yarrow, mint and rue. These remedies were to be given at intervals as soon as an animal became sick and until the animal began to sweat. All of these remedies seemed to have one feature in common, they had no effect in curing the disease and revealed the helpless state of veterinary knowledge in the first half of the eighteenth century. The search for remedies went on, however, and so urgent was it to find protection of the herds of Brandenburg and related Hohenzollern territories that foreign developments were watched closely and reported on. The epidemic was a universal problem extending from Russia to France and north to Denmark and Ireland. Reports of research and remedies were received from other countries or from other German territories.

Edict of March 1732. Since the remedies previously published had been ineffective, Frederick William I in an edict of 1732[11] published reports of remedies which were being tried in France, Alsace, the Netherlands, and Baireuth in Germany. According to a report of the King's Resident in Basel of 13 February 1732 cattle disease was occurring in the French district of Cannat. It was ascribed by some to a poisonous mildew, by others to a large mass of caterpillars appearing that year. The disease was reported as appearing in the form of a blister on the tongue. At first the blister was white, then turned red and black successively. Then it split in two and became ulcerous *(krebsartiges Geschwür)* eating around and through the tongue completely cutting it in two, whereupon the animal in time must die. Within 24 hours, it was reported from France, one could observe the onset, growth and end of this disease. The infected animals continued to eat and drink, and could be worked until the ulcerous tongue fell off. No external symptoms were reported. In order to forestall this evil owners were advised to examine the tongues of all horncattle two or three times daily so that the disease could be combated from the beginning. The report offered a remedy used in the province of Auvergne as a preventive to be given to uninfected cattle. This was a mixture of theriac, cinnamon, pepper, ginger, juniper berries, crushed nutmeg and quentlein. A half measure of red wine was poured over this mixture and allowed to soak for five to six hours. "The drink at least cannot harm the cattle, but neither can one promise with certainty that it will always protect against the disease."

The King's edict also published a suggestion from Baireuth on how the disease itself might be literally removed. As soon as one or more tongue blisters were discovered they were to be ripped open with a silver spoon or utensil, the skin pulled away, and the wound scraped until it bled. Then, the wound was to be kept moist with wellwater or, better yet, with wine-vinegar to which was added pepper, salt, garlic and herbs. Then the wound was to be rubbed with blue vitriol and salt spread over it. If an ulcer had already formed, the same procedure was to be followed. Out of Béance in 1731 and out of Alsace in 1732 came reports of similar treatment of blisters and ulcers on the tongue. In Alsace the means of scraping the blisters or ulcers improved from a silver spoon and a stave wrapped in cloth soaked in a mixture of blue vitriol, vinegar and honey to a hoelike instrument made of fine silver, one edge of which was serrated for scraping, the other ground for cutting. To this device was added a wooden or iron handle with a sharp pick at the end for ripping open the hard and deep blisters and ulcers. The user was advised to allow

[11] *Ibid.*, 5: Part 4, 477-492 (No. 30) of 26 March 1732.

none of the matter coming from the blisters to pass down the gullet, otherwise the animal would die from this absorbed matter. After use the instrument was to be disinfected in fire.

From Alsace and western Germany another set of internal remedies was introduced to the Brandenburg farmers. In cases of constipation a purgative was recommended. This was made of Venetian soap, hazelroot and savin cooked up in a half measure of beer or wine and administered warm. But if diarrhea had set in, it was warned, such purgatives were dangerous. Cattle with diarrhea were allowed to drink water in which was boiled a cowcake (linseed cake), wheaten flour or a pound of white clay. This was claimed to be useful in driving out sweat and in preserving the inner organs from the disease. Better remedial results were claimed for a powder made of eggshells, flowers of camomile and yarrow, lovage root, juniper berry, fennel, anise, scordium, saltpeter and antimony. Two ounces of this powder when mixed with bran water and poured into a sick animal was supposed to temper the acridity of the blood, improve transpiration, and hinder sepsis.

Boils or nodules on the skin were to be treated with broiled onions, honey and meal or brought to a head with a pitch-plaster, then lanced and healed with turpentine and pitch. Blisters or ulcers on the tongue, genital sheath or vulva were to be scratched open and washed out. The instructions warned that in doing these things care was to be taken that no pus touched the human skin. If so, it was to be washed with lye and soap, followed by water and vinegar. Although there was no evidence that this cattle disease was contagious to humans, the precaution, it was argued, would do no harm.

The edict of 1732 contained the important observation that there was no clinical evidence that cattle once infected and surviving got infected a second time. The investigators were close to the thought of preventive inoculation to confer immunity, but this did not occur until 1896.

Summary. The first of several epidemic outbreaks of a rinderpest-like epizoöty in the eighteenth century, occurring in 1711 and the years following, inspired the first efforts towards systematic observation and study of cattle disease in Brandenburg. The major gains were made in the direction of prevention and protection to avoid serious epidemics. Some understanding of symptoms was acquired. No effective remedies were found. This would remain a challenge for the twentieth century.[12]

[12] For an interesting comparative essay on this subject see Shelby T. McCloy, "Relief for Epizoötics," *Government Assistance in Eighteenth-Century France* (Durham, N. C., 1946).

FARMERS AND THE HIGH COST OF LIVING

There seems to be a tendency to blame the farmer for the present high cost of living. The farmer as a rule is prosperous, but it cannot be said that he is getting more than his due.

If the average farmer can make 8 or 10 percent clear on his investment he thinks he is mighty fortunate. Many farmers don't realize such a profit.

On the other hand the annual reports recently published of large corporations show that dividends from three to four times 10 percent are declared on stock in many cases more or less heavily watered.

On the whole it is hard to see where the farmer is getting any more than is coming to him.

—From the *Prairie Farmer* (1910)

E. I. du Pont, Don Pedro, and the Introduction of Merino Sheep Into the United States, 1801: A Document

Carroll W. Pursell, Jr.

Much has been written on the importance of the introduction of merino sheep into the United States. Chester W. Wright has stated that these animals "furnished a solid foundation upon which to start a lasting and far-reaching improvement in the flocks of this country."[1] Arthur H. Cole has written that the "changes in the character of the raw material supply are of an outstanding importance when considering the development of the American wool-manufacturing industry."[2] Another writer has claimed that most of the 24 million sheep in the United States, in 1860, were "descendants of the Spanish merinos which, introduced into this country in the early years of the century, inaugurated the first American merino 'craze' and were the foundation of the modern wool growing industry."[3]

Credit for the first introduction of merino sheep into the United States has been variously assigned. Several recent writers have given precedence to William Foster of Boston, who is reported to have sent two ewes and a ram to Andrew Craigie of Cambridge, Massachusetts, in 1793.[4] According to the story, Foster met Craigie several years later at a merino sale where the latter was buying a ram for $1,000. When asked the whereabouts of the sheep sent in 1793, Craigie is said to have replied that because he had not known the value of the animals, he "simply ate them."[5]

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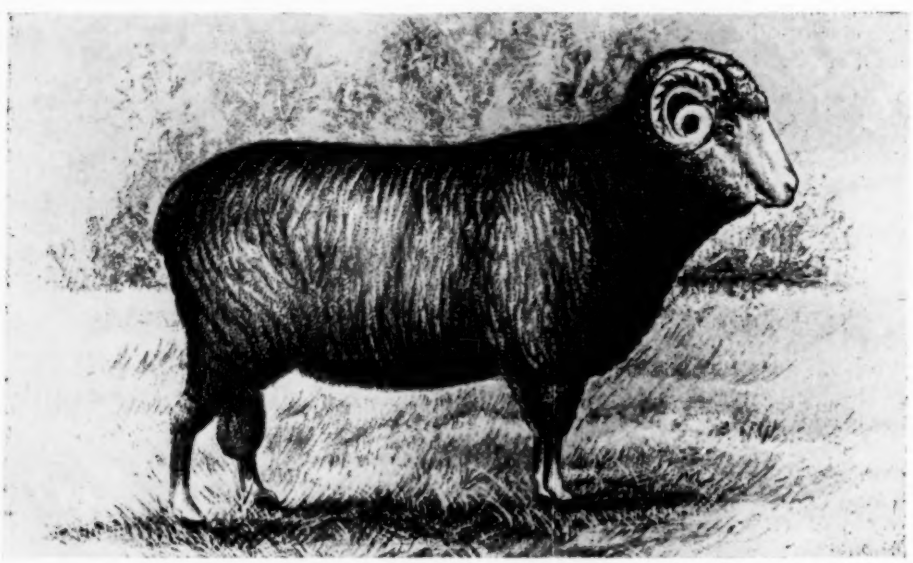
[1] Chester W. Wright, *Wool-Growing and the Tariff* (Boston, 1910), 14.

[2] Arthur H. Cole, *The American Wool Manufacture* (2 vols., Cambridge, 1926), 1: 72.

[3] Harry Brown, "The Fleece and the Loom: Wool Growers and Wool Manufacturers during the Civil War Decade," *Business History Review*, 29: 2 (Spring 1955).

[4] Wright, *Wool-Growing*, 15; Cole, *Wool Manufacture*, 1: 74.

[5] This amusing story found its way into print as early as 1864. J. Leander Bishop, *A History of American Manufactures from 1608 to 1860* (3 vols., Philadelphia, 1861-1868), 2: 87 fn. Bishop may have gotten it from a letter written by Foster which appeared in an article entitled, "Brief History of Sheep, and Export of Sheep and Wool," *Hunt's Merchants' Magaine and Commercial Review*, 31: 642-643 (Nov. 1854).



Merino ram "Don Pedro" ***(From Vermont Sheep Breeder's Register)***

Although Foster may have procured the first merinos, it is generally conceded that the first *significant* importation was made in 1801 by E. I. du Pont, later of Wilmington, Delaware.[6] This young French émigré came to the United States in 1800 and, deciding to establish a gunpowder manufactory, returned to France in 1801 to procure machinery, plans, and workmen. On his voyage back to the United States, he was entrusted with the care of Don Pedro—a merino ram which was to become well known in American agricultural circles.

The major source of information on Don Pedro appears in an article entitled "Observation on Sheep" which appeared in the *Archives of Useful Knowledge* in 1811.[7] This account was ostensibly written by James Mease (1771-1846), a Philadelphia physician and agriculturist who was also editor of the *Archives*. Actually the piece was written by du Pont himself, at the request of Mease. This lends authenticity to the facts although it qualifies the judgments. The reason for this anonymity was explained by du Pont in a letter to Mease:

> I beg and trust that if you Publish you will be so good as to take the trouble to put it in better english and be careful not to let any gallicism remain for instide [*sic*] of appearing a true genuine editorial article it would to [*sic*] plainly show that the autor [*sic*] is not of genuine breed and the compliments paid to Pedro will have better effect and do him more honor coming from you than from me.[8]

Mease acknowledged receipt of the account and promised that it would appear in the first volume of his magazine.[9] Du Pont's manuscript copy has not been found but the following, as it appears in the *Archives*, is Mease's edited version.[10]

Until the present year, the only original imported stock rams and ewes, in the United States, were those of Mr. Dupont, Mr. Delessert, Col. Humphreys', and the Author's from Spain; Mr. Livingston's from France, and Mr. Muller's from Hesse Cassel. Of these, the two first mentioned arrived in 1801. Col. Humphreys' and Mr. Livingston's in 1802, the Author's in 1803; and Mr. Muller's in 1807. During the present year, several have been imported into the United States from Spain and Lisbon.[11] The flock of Col. Humphreys' was the largest, he having imported upwards of one hundred sheep, from which and their descendants, many pieces of cloth have been made, and sold from seven to twelve dollars per yard.[12] The particular history of Mr. DuPont's fine ram is as follows:

Don Pedro was imported into the United States, in the year 1801, and is believed to be the first full-blooded Merino ram introduced into North America.

Mr. Dupont de Nemours,[13] then in France, had persuaded Mr. Delessert, a banker of Paris, to send to this country some of those valuable sheep, and he having been at the head of a commission appointed by the French government to select in Spain, 4000 Merino sheep out of the number of 6000, which, by the treaty of Basle, the Spanish government had stipulated to present to France; it is natural to suppose that those which he selected for his own flock, were among the best. Four fine young ram lambs were accordingly shipped, two were intended for Mr. Delessert's farm, called Rosendale, situated near Kingston, on the Hudson

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[6] Wright, *Wool-Growing*, 14; Cole, *Wool Manufacture*, 1: 74; *Manufacturers of the United States in 1860. Eighth Census* (Washington, 1865), 27; Winifred Kupper, *The Golden Hoof* (New York, 1945), 40.

[7] *Archives of Useful Knowledge*, 1: 103-106 (1811).

[8] E. I. du Pont to James Mease, June 15, 1810, in B. G. du Pont, *Life of Eleuthère Irénée du Pont from Contemporary Correspondence* (11 vols., Newark, Del., 1923-1926), 8: 271-272.

[9] James Mease to E. I. du Pont, July 3, 1810, in *ibid.*, 8: 276-277.

[10] *Archives of Useful Knowledge*, 1: 102-106 (1811). This was also printed in Du Pont, *Life of . . . du Pont*, 8: 272-276.

[11] These were probably those procured by William Jarvis, American consul at Lisbon. Percy Wells Bidwell and John I. Falconer, *History of Agriculture in the Northern United States, 1620-1860* (New York, 1941), 218; L. G. Connor, "A Brief History of the Sheep Industry in the United States," *Annual Report of the American Historical Association for the Year 1918* (2 vols., Washington, 1920-1921), 1: 103.

[12] This importation included 75 ewes and 25 rams. Nine of the sheep died before being landed in Connecticut. *National Intelligencer* (Washington, D. C.), September 27, 1809.

[13] Pierre Samuel du Pont de Nemours (1739-1817) was the father of E. I. du Pont.

river; [14] one was intended for Mr. Dupont de Nemours, who was at that time settled in the vicinity of New-York,[15] and the other was to be presented to Mr. Thomas Jefferson. Mr. Dupont embarked in the ship Benjamin Franklin, on board of which ship the four lambs were shipped, and was unfortunately detained upwards of twenty days in England; his subsequent passage to the United States was long and boisterous, in consequence of which three of the sheep died, and it was with the greatest difficulty that Mr. Dupont preserved the fourth. The ship arrived at Philadelphia on the 16th of July, 1801.

In 1801, Pedro tupped nine Ewes at Mr. Dupont's place near New York; [16] he was then sent to Mr. Delessert's farm, and served a large flock during the years 1802, 3, and 4. In the course of 1805, Mr. Delessert having determined to rent his farm, and to sell all his stock, the progeny of Pedro were sold at public sale, at reduced prices, to the neighbouring farmers, who had no idea of the treasure which was offered to them; being unacquainted with that breed of sheep, they neglected those valuable animals, great numbers of which have perished in their hands, or were sold to butchers; the rest would probably have shared the same fate, had not chancellor Livingston become acquainted with the existence of those sheep, and purchased at advanced prices some of the ewes, which he put to his fine Merino rams of the Rambouillet stock.[17] Pedro, like the rest of the flock of the Rosendale farm, was sold at vendue, and Mr. Dupont's agent bought him for 60 dollars.[18]

In July 1805, Pedro was removed to E. I. Dupont's farm, situated in the state of Delaware, near the borough of Wilmington. That gentleman had a very small flock at that time, but was anxious to see that valuable breed propagated in the country,[19] and with a view to attain that end, he offered the farmers of his neighborhood the use of his ram, gratis; they could not be prevailed upon to think much of what was offered to them free of cost; the consequence was, that very few ewes were sent to Pedro during three seasons, and only by way of experiment.

In 1808, however, Mr. Dupont, with a view of increasing his own flock, purchased from the farmers, his neighbours, as many half or three-quarter blooded ewes of Pedro's breed as he was able to collect, which measure raised his character among the farmers.[20] Since that time Pedro has served every year, from 60 to 80 ewes; the vicinity of Wilmington will therefore be supplied with a large stock of fine woolled sheep, and as Mr. Dupont & Co. are erecting works for the purpose, cloth of any fineness may be made.

Pedro is now ten years old; [21] but very strong and active; he is stout, short, and woolly, and of much better form than Merinos commonly are; and even better than that of a ram figured in a superb engraving lately received by the Agricultural Society of Philadelphia from Paris. His horns are large and spiral; his legs short, and he weighs 138 pounds; his fleece carefully washed in cold water, weighs 8½ pounds, is extremely fine, the staple is 1¾ inches long, and lying very thick and close upon his body; it is entirely free from loose coarse hairs, called jarr. Every part of his fleece, moreover, is nearly of equal fineness, even the wool of the hind legs and thighs, which is long and coarse upon many Merino sheep, is short and fine upon Pedro. This point, which in the case of wool so valuable as that of Merino sheep, is of great consequence, will be transmitted to his progeny, and proves the value of stock derived from him.

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[14] This farm of about 1800 acres was along the Hudson River, midway between New York and Albany. M. de Lessert, who operated the farm through a manager, raised cattle to supply milk for making Geneva cheese. Du Pont de Nemours to Bidermann, December 1, 1800, in Du Pont, *Life of . . . du Pont*, 5: 178.

[15] This was a home called Good Stay, located nine miles from New York, on the New Jersey shore opposite Staten Island. *Ibid.*, 5: 116.

[16] When the Du Ponts moved from Good Stay to the Brandywine, near Wilmington, Delaware, they shipped seven "Spanish lambs" to their new farm. E. I. du Pont to William Hamon, July 10, 1802, in *ibid.*, 6: 80; "Facsimile of original bill of lading of household goods sent to Wilmington in July, 1802," in *ibid.*, 6: 80 facing.

[17] These sheep were named for those raised on the French national farm, called Rambouillet. See also *National Intelligencer*, July 2, 1810.

[18] Du Pont did not buy Don Pedro until late in May, 1805. Peter Bauduy to Victor du Pont, May 13, 1805, in Du Pont, *Life of . . . du Pont*, 7: 136.

[19] Don Pedro was put on public exhibition at the powder works on August 3, 1805. A sample of cloth made from the wool of a half blooded merino was also shown and three half blooded rams were placed on sale. *Mirror of the Times* (Wilmington), July 27, 1805.

[20] Du Pont was already considering the establishment of a woolen mill near his powder works. E. I. du Pont to Du Pont de Nemours, June 10, 1807, in Du Pont, *Life of . . . du Pont*, 7: 306.

[21] Don Pedro died during the spring of 1811. Gareshes and Ravesies to E. I. du Pont de Nemours and Co., May 18, 1811, in *ibid.*, 8: 296.

Book Reviews

Farms or Forests: Evolution of a State Land Policy for Northern Wisconsin, 1850-1932. By VERNON CARSTENSEN. (Madison, Wisconsin, College of Agriculture, 1958, 130 pp.)

This paper-bound volume, printed by photo-offset, tells a highly interesting story of the political contest in Wisconsin between those who advocated a reforestation and conservation program for cut-over lands in the northern part of that state and those who preferred the conversion of these lands to farming enterprises. A measure of success was finally achieved by the former group who were aided by natural forces and the changing economic circumstances of the late 1920's.

This study, which is well documented and presented in a clear and interesting style, has more significance than might be suggested by its brevity and the modest format with which it appears. It provides a study of one of the earlier examples of a locally inspired philosophy of forest conservation in the United States, and the attempt to translate this philosophy into effective action on the state and local levels.

As early as 1868, when Wisconsin was among the newer states, its legislature adopted a law encouraging farmers to plant a timber belt by granting tax-emptions and bounty payments. Failing to accomplish its purpose, it was followed by another law ten years later which provided that land belonging to the state in an area of 24 townships in northern Wisconsin be set aside for a public park. Complaints against this law and the opposition by lumber companies resulted in its repeal in 1897. At the same time the legislature, acting in a contradictory manner, provided for a commission to draw up a plan for a forestry department to manage state timber lands and to purchase and reserve for the state such lands as were better suited for forestry than for farming purposes.

This new forestry movement, headed by Edward M. Griffith who had been trained in Europe and who had been associated with Gifford Pinchot in the newly-created Forestry Department of the Federal government, proceeded to increase the state forest reserve to 340,000 acres by 1911, at which time the commission and State Forester Griffith were broadening their interests to include problems of drainage, water power, and recreation. The new program came under criticism in 1911 however, and it began to lose favor with the legislature. Both political and economic factors were involved. The Progressive Movement of which the forestry program had been a part, was becoming rent by factionalism, and a formidable attack had been made on the scientific basis of the program. Also there was pressure from those who desired that northern Wisconsin become a populous and thriving farming region, to which the agricultural prosperity of World War I was a contributing factor. The forestry program came abruptly to an end in 1915 when the Wisconsin Supreme Court declared unconstitutional the laws on which it was based.

The next 15 years were indeed a period of "trouble bunched for many years," as the title of Chapter VI characterizes this period. Land-clearing and farm-making failed to proceed rapidly in the area. Depressed agricultural prices of the 1920's, climaxed by the general depression of 1929, led to tax delinquencies and related problems in the area which were unsurpassed anywhere else in the entire region. It was in this period that the term "cut-over" came to be used synonomously in that state with depressed areas.

The final chapter tells the story of the ultimate solution to the problem. A 1929 Wisconsin law authorized counties to regulate and restrict areas in which agriculture, forestry, and recreation should be conducted. By 1948, 37 counties, mostly in the northern part of the state, had completed such zoning ordinances. The state legislature assured appropriations for acquiring and preserving lands, and for fire prevention measures. New Deal relief programs of the 1930's and Federal land purchasing laws speeded the work. The new program with policies based on indigenous circumstances and local accommodation has contributed greatly to the economic recovery of northern Wisconsin.

James C. Bonner
Georgia State College for Women

Agriculture in Ante-Bellum Mississippi. By JOHN HEBRON MOORE. (New York, Bookman Associates, 1958, ii, 268 pp.)

Professor Moore is not a revisionist *per se*, but the conclusions he reaches in his book are quite different from the magnolia-scented accounts of Southern agriculture which have been written. He is a trained historian, selected a good subject, conducted his research as scientifically as a historian is expected to do so, wrote his story beautifully, stuck to his subject, and reached conclusions fairly based on his research. His mentors, James C. Bonner and James Z. Rabun, have every right to be proud of what he has done.

The author does not concern himself with slavery as such, saying that the institution has been adequately covered by Charles S. Sydnor's *Slavery in Mississippi* (New York, 1933). However, whereas Sydnor concluded that slavery was unprofitable in Mississippi, Moore says that the institution paid handsome profits, this depending, of course, upon time, place, and the individual planter. Reaching such conclusions, he is more iconoclastic than Sydnor. Also, Moore does not give much attention to the white non-slaveholding landowners, stating that this much debated subject has been discussed in Herbert Weaver's *Mississippi Farmers, 1850-1860* (Nashville, 1945). What he writes, therefore, is both original and important. His study is somewhat comparable to numerous monographs already printed on Alabama and Georgia agriculture, and more particularly to Cornelius O. Cathey's *Agricultural Developments in North Carolina, 1783-1860* (Chapel Hill, 1956).

Using contemporary materials including agricultural magazines, newspapers, travel books, special studies, edited sources, memoirs and manuscripts, Moore digs into Mississippi agriculture as it has never been done before, and he goes far beyond Sydnor and Weaver in his coverage. He discusses the shift from grazing to cotton culture, the 1837-1849 depression (the influences of which so impressed Sydnor), experiments in cotton breeding, progress in technological procedures, livestock and corn production, and profits.

Rightly so, the author concludes that cotton was the chief money crop in ante-bellum Mississippi and that other crops were neglected there in order to concentrate on cotton. He does not conclude therefrom, as has been done by many less informed writers, that cotton was the chief and all-absorbing crop of all agriculturists in all of the Gulf States of the Old South. His is factual history. He shows that Mississippi planters were much interested in scientific agriculture with regard to cotton, that they gave close attention to cotton culture because they made money thereby, and that they supported slavery because it helped them make money. He emphasizes the fact that cotton planters were engaged in a capitalistic undertaking.

It is refreshing that such a book has come off the press, for it is only through such a study as Moore's and the inquiries of a few other scholars working in the same field that the full history of agriculture in the ante-bellum South will finally be presented. Like Cathey's account of North Carolina agriculture, which is also based on fact rather than fancy, it is an admirable study. When the history of cotton in America is written, the author will have to depend on such books as Moore's.

Weymouth T. Jordan
Florida State University

Farmer and Farm Labor in the Soviet Zone of Germany. By FRIEDA WUNDERLICH. (New York, Twayne Publishers, 1958, 162 pp., $4.00.)

Frieda Wunderlich, in this monograph, gives a most depressing picture of the effect of Marxist theories on agriculture and agricultural labor. Perhaps, as Alvin Johnson surmises in the foreword, the net economic result in Russia of land seizures, liquidation of the kulaks, and application of state socialism to agriculture has been a state of affairs at least not worse than that of Czarist days. Even this point might be argued, but in any case it is clear that the application of the same policies in East Germany have been disastrous.

Dr. Wunderlich divides her book into two natural parts: "The Farmer" and "The Farm

Worker." The first part, only 35 pages in length, is the better, this reviewer thinks, and he wishes that it were longer. This section traces the tragic story of the East German farmer during the first ten years after the war, necessarily breaking off in mid-air at the beginning of the crop year 1956. The pattern applied to East Zone agriculture by the Russian conquerors was willy-nilly that already used in Russia. Other satellites varied from this pattern temporarily, but in East Germany it was applied at once because of long-range political reasons.

The first step was the seizure of lands belonging to the politically undesirable and all holdings over 100 hectares (about 247 acres). Some 11,000 farm owners, the very persons who had made East Germany largely self-sufficient as to food, lost their estates and farms. The expropriated lands, except for some nationalized estates, were then subdivided into plots of from five to ten hectares and sold on credit to former farm laborers, to refugees from lands beyond the Oder-Neiss, and to others who qualified. During a three-year period, some 3,200,000 hectares were thus distributed, representing a third of the usable land of East Germany. The new owners often had insufficient buildings and livestock. Worse yet, all were dependent on the state-owned "machine tractor stations" to plant, cultivate, and harvest their crops. The inefficiency of these stations alone has been enough to ruin the whole green revolution. It is little wonder that the new farmers referred to their MAS (Maschinen-Ausleih-Stationen) as "Mord am Siedler."

Of course, it was not intended that the new farmers or any other peasants should succeed. Banded into a Peasant Mutual Aid Association to keep them subservient to the SED, subjected to arbitrary planning, handicapped by shortages of one kind after another, liable to delivery quotas difficult or impossible to fulfill, the peasants have fallen by the wayside at a fantastic rate. Thousands have been dispossessed, other thousands have decamped to West Germany, and an increasing number, including one-third of the new settlers by June, 1953, have given up their land to "the people" for the forming of collectives. In typical Communist fashion, the regime had loudly maintained that agriculture, except for the nationalized estates, would not be collectivized. But in 1952 the drive for the formation of so-called cooperatives went into high gear. By an ingenious combination of "carrot and stick," the state coaxed increasing thousands to change their position of dubious independence to one in which their miseries were equalized after a fashion. The story of collectivization is only begun in the book, but Dr. Wunderlich foretells the completion of the program and "the extorting the utmost from the collective farms through compulsory delivery quotas for which low prices are paid."

The second part of the monograph, 65 pages in length, gives in somewhat greater detail the story of agricultural labor during the same period. In reality, Dr. Wunderlich has broadened the treatment so that it is practically a history of East German labor since the war. One of her sub-titles is most descriptive: "The Worker—a Means to the End of Increased Production." It is worthy of note that such Communist concepts as "activism," "labor heroism," "socialist competition," "norms," etc., have not been adopted readily in East Germany generally and by farm labor particularly. The farm laborer, even more than other laborers, has become a slave of an arbitrary and not too efficient bureaucracy. Given a wage prescribed by law as part of an overall economic plan, rewarded for efficiency by being given higher norms, only partially protected from losses due to accident, sickness, unemployment, and old age, the farm laborer of East Germany is certainly in an unenviable position. It is understandable that he has become a master at applying the slowdown.

This monograph is a competent, well-written, and completely documented study, and shows a thorough background knowledge on the part of the author. There will be those who think Dr. Wunderlich not entirely objective. But the present writer, who can claim some knowledge of the subject, finds himself in full agreement with even the strongest of her statements. He begs leave to quote one: "It would be wrong to explain the deep dissatisfaction of the East German people only with the economic ex-

ploitation, the fear of persecution. The drabness and dullness of life, the constant pressure and surveillance, the demands of the regime for limitless conformity, the lack of freedom to be different, to belong to a minority are just as oppressive. Those who knew a free life in a cultured country resent the militarization of the children's minds, their indoctrination with hatred toward their western relatives, the disciplining of their minds in unquestioned obedience and submission. . . . Worst of all is the sense of hopelessness, the lack of any prospect that this wretched life will ever change. The farmers deeply resent accusations that they are contaminated by capitalist survivals. The Soviet worker may be unaware of his chains, but the German adult worker knows that he is wearing them." No one can doubt that Dr. Wunderlich is a partisan, but she is an able and accomplished one.

Dr. Johnson in the foreword has given two excellent reasons for reading this book: (1) to disabuse the reader of any belief that the Russians will ever turn East Germany over to West Germany except on their own terms; (2) to understand what must of necessity happen to agriculture under a Communist regime. The typical reader of *Agricultural History* will be much distressed by Dr. Wunderlich's conclusions. But Americans these days are learning many distressing things. Perhaps when we know more about the rest of the world we may become less naive about it.

Hubert Schmidt
Rutgers University

From Fief to Indenture: The Transition from Feudal to Non-Feudal Contract in Western Europe. By BRYCE D. LYON (Cambridge, Mass., Harvard University Press, 1957, xv, 331 pp., $8.00.)

This important study has already commanded praise from competent critics and its high place is assured among significant contributions to our knowledge and understanding of medieval life and institutions. The author chose a subject demanding investigation and his tasks of research and synthesis required physical vigor, scholarship of high order, clarity and precision of exposition. Like a knight of old, he seems to have traveled every highway and returned truly victor. The quantity of published literature examined is formidable, but Professor Lyon searched widely also in archives of France, Belgium, and England and enriched his study by use of manuscript sources. Although his book will actually be read by few, it will need to be consulted by many. It is, however, in every respect a work of enduring value and distinction.

The term *fief-rente* is difficult to define and many attempts to do so have further clouded its precise meaning. Mr. Lyon finds the term implied usually "money paid in annual installments by a lord to a vassal in return for homage and fealty, military service (customarily knight service), and various other feudal obligations; it could, however, consist of natural produce such as grain, wine, chickens, and wood paid in annual installments." In spite of the possibility of the contract involving payment in kind, the relatively wide use of the *fief-rente* in the high middle ages and its decline in the fourteenth and fifteenth centuries is inextricably bound to and indicative of the growing money economy of a still feudal age. It should be noted, however, that the institution attained prominence only in regions that had first known feudal custom, and flourished especially in those highly feudalized lands lying between the Rhine and the Loire.

There are seven chapters; an appendix containing 30 useful illustrative documents in medieval French, Latin or Flemish; five plates; a bibliography of sources in manuscript; and, happily, an index. Opening his study by a careful consideration of terminology, identification, and chronology of the *fief-rente,* Mr. Lyon then describes how the particular institution fitted into the pattern of the ordinary fief. Since it was by nature extraordinary, the *fief-rente* became one of many elements that forced "feudal custom to become more flexible to meet the new demands of a changing feudal age."

A chapter of special interest deals with the finance of the *fief-rente.* As Mr. Lyon remarks, this is more than an investigation of the techniques used for payments; it is actually an inquiry into the financial history of

medieval western Europe. Here one learns where and how medieval feudal rulers obtained money to meet the obligations of the *fief-rente*. The English kings, of course, had the advantage over their continental contemporaries by having well developed and carefully regulated treasuries. However, all revenues from seignorial incomes were used to pay the recurring demands of money-fiefs. Though tolls, duties, customs provided large sums, nobles often relied for this purpose upon income from tallages, grain mills, wind and water mills, forests, pannage, fisheries, church revenues, scutage, escheats, aides, revenues from towns, from the Champagne fairs and profits of justice. The complexities of feudal life at least provided variety of opportunity.

Chapter IV is a discussion of "The Political and Diplomatic Role of the *Fief-Rente*." Its title alone would attract attention and it does contain much of interest. Here Mr. Lyon makes no attempt to claim more than the documents will support. Although he recognizes the *fief-rente* as "a key element in the diplomatic relations of western Europe," the 'diplomacy' was merely the making of military alliances. This section could be of considerable interest to readers of Professor Garrett Mattingly's truly brilliant study of *Renaissance Diplomacy*, but it will not modify his contentions. Mr. Lyon correctly stresses the fact that "much of the diplomatic activity merely reflected the prime occupation of the medieval prince—war."

Much space is reserved for a discussion of the military role of the *fief-rente* and this section presents illuminating insights into the actualities of the fundamental bond between lord and fighting man. Though occasionally used for the purpose, *fief-rente* never played a significant part in the maintenance of the knight of the royal household; nor was it widely employed for castle-guard, for which non-feudal wages were often used. As service in the field came to impose impossible burdens on vassals, wages became essential and the use of the *fief-rente* and other forms of remuneration gave way to new demands. One must note, however, Mr. Lyon's comment that "feudal custom could not be abruptly pushed aside merely because there was more money." In a feudal world the power of money had its limitations.

By the end of the fifteenth century traces of the *fief-rente* remain but they are few. Since it was in the first instance primarily a military device, Mr. Lyon believes it logical to find an explanation for its decline in the novel demands effected by changed military developments in the later middle ages. The bonds and contractual stipulations implied by vassalage could not meet the need for a disciplined, efficient military organization. The *fief-rente* gave way to a system of indenture; it was, says Mr. Lyon, "the link between traditional feudalism and contractual military service."

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We the People: The Economic Origins of the Constitution. By FORREST MCDONALD. A Publication of the American History Research Center, Madison, Wisconsin. (Chicago, The University of Chicago Press, 1958, xii, 436 pp., $7.00.)

This important book will engage the attention of historians for a long time, not only because of its detailed findings, but also because it imposes an obligation on the historical profession to find a meaningful interpretation of the origins of the Constitution. Mr. McDonald, formerly of the American History Research Center and now on the faculty at Brown University, set for himself the task of doing the research outlined by Charles A. Beard in his *An Economic Interpretation of the Constitution*. McDonald has compiled and analyzed data concerning the economic interests of some 1800 individuals—the framers of the Constitution and the members of the ratifying conventions—an amazing feat. His analysis of that data, combined with perceptive and often brilliant essays on ratification in the 13 states, leads him to deny Beard's basic hypothesis about the origins of the Constitution. It was not, as Beard said it was, an economic document drawn by a consolidated economic group whose interests were at stake and who knew no state boundaries. Its ratification was not accomplished by "substantial personality interests" in opposition to "small farming and debtor inter-

ests"; and the "preponderating" dynamic element in the ratification was not the holder of public securities. Measured in the *quantitative* terms that Beard himself suggested, the origins of the Constitution were not what Beard said they were.

Aside from the negative findings, in themselves impressive enough, Mr. McDonald's most important general suggestion arises from his division of the states into three ratifying groups — those overwhelmingly favorable, those of mixed opinion, and those strongly opposed. These varying attitudes were partly, at least, consequences of the degree to which the states were capable of (or thought by their citizens to be capable of) functioning as independent or semi-independent economic and political units. Within that context, McDonald finds, the measuring of economic interests and corresponding attitudes toward the Constitution makes a good deal of sense, particularly if the interests are more subtly defined than they were by Beard (McDonald finds 13 more-or-less distinct groups of farmers, for example). As a consequence, the book is both a demonstration of the validity of, and a plea for more, detailed local and state history as prerequisite for an understanding of the origins of the Constitution.

McDonald promises that this book is to be followed by two more in which he will attempt to write "something meaningful about the making of the Constitution." If they prove to be of the calibre of this one, they will be well worth waiting for.

Lawrence W. Towner
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The Niger Agricultural Project: An Experiment in African Development. By K. D. S. Baldwin. (Cambridge, Mass., Harvard University Press, 1957, xvi, 221 pp., $5.00.)

The critical position of underdeveloped areas in world politics lends significance to this analysis of the Niger Agricultural Project. Its uniqueness as a study of failure and the lessons it teaches concerning the delicate business of administering development projects give the book added importance.

In 1949 the project was launched on a 32,000 acre tract in the Mokwa area of Nigeria under the joint sponsorship of the Colonial Development Corporation and the Government of Nigeria. It was an experiment in the combination of mechanized farming with the agricultural skill of African settler farmers on fertile but undeveloped land. Social improvement and increased production for home consumption and export were anticipated results. Maintenance of soil fertility, erosion control, and the molding of a pattern for similar projects elsewhere were other aims. By 1952 the project was a failure, and in 1954 the Nigerian government assumed sole responsibility for what was left of it. In five years, only 9,600 acres were cleared and 163 families were settled. In fact, none of the objectives were achieved, but £500,000 had been spent.

The advantage of hindsight enables us to see the mistakes in the Niger Project. The planners and operators were uninformed concerning local soil, climate, and crop conditions. They assumed that an adequate number of laborers and farmers would be forthcoming in an area devoid of land hunger and where political factors precluded the free flow of people from one region to another. Peculiarities of native society were not understood; therefore, arrangements in the model villages were unsatisfactory to the inhabitants. The sharecropping system by which they received only one-third of the yield did not provide sufficient incentive for the tenants. The administrative headquarters were too distant from the settlers, the homes of many farmers were far away from the cultivable lands, and the water supply was inadequate. Mechanical equipment was not adapted to local needs, maintenance at such a distance from production and supply centers was difficult, and skilled operators had to be trained on the job. Huge ant hills, rugged stumps, incredibly tough root formations, and highly abrasive soils were severe and unexpected obstacles to the use of machinery. Finally, the high overhead costs incidental to mechanized farming were not given sufficient consideration in the planning stages.

There is little doubt that some of these mistakes and problems could have been avoided. The experience at Mokwa indicates certain

procedures that are desirable in planning and operation, if such a project is to have a chance of success. A careful study of local data, experiments to secure other information, the running of a small pilot scheme to test the practicality of proposed plans, and, finally, the launching of a large-scale commercial operation appear to be the logical steps that should be followed.

It is clear that the African peasant farmers were more accurate in their appraisal of the Niger Project than the planners and were justified in their reluctance to share in it. The experience there demonstrates that the success of any project cannot be guaranteed by pouring in indefinite supplies of money and machinery without careful appraisal of the problem factors involved. It also emphasizes the high priority that should be given to a study of local conditions and consultation with native inhabitants.

It is to the credit of the Colonial Development Corporation that this detailed and critical analysis of the history of the project was authorized. Fortunately, Mr. K. D. S. Baldwin, then with the West African Institute of Social and Economic Research and now an agricultural economist in the Nigerian government service, agreed to do this study. He had access to all pertinent records in Lagos and London and spent several months on the scene in Mokwa. The text is amply supplemented by maps, tables, and illustrations. As a whole, the book is a concise, objective, and highly satisfactory analysis of the Niger Agricultural Project.

Garland G. Parker
University of Cincinnati

Een Samenleving onder Spanning: Geschiedenis van het Platteland in Overijssel. By B. H. Slicher van Bath. (Assen, Van Gorcum & Comp., 1957, xiv, 768 pp.)

The title of this book, "A Society under Pressure," is significant: it deals with the demographic and economic factors which, during the seventeenth and eighteenth centuries, were responsible for social change in the Dutch province of Overijssel, east of the Zuiderzee. This province has poor sandy soil and, even today, agriculture is its main resource, with the exception of the Trente district, the seat of the Dutch cotton industry. The author is a weil-known specialist on agrarian and social history who teaches at the agricultural college of Wageningen and is thoroughly acquainted with the past and the present of the region forming the subject-matter of the book. Although the investigation extends from the end of the Middle Ages to about 1800, the author occasionally exceeds his time limits in order to make useful comparisons with present-day conditions. The approach is statistical rather than institutional. The available data reveal a constant trend toward over population, with the result that the province of Overijssel suffered from chronic unemployment and that a large percentage of the population, especially in the eighteenth century, lived in squalid poverty and was periodically decimated by recurrent epidemics which took most of their victims among the poor. At present, the old ghost has risen again, and a new crisis is looming for which there are only two solutions: either emigration or industrialization. This problem is not confined to Overijssel but applies to the whole of the Netherlands whose population has increased from less than 6 millions in 1900 to over 10 millions today.

Raymond de Roover
Boston College

Modern Archives. Principles and Techniques. By T. R. Schellenberg. (Chicago, The University of Chicago Press, 1956, xv, 248 pp. $5.00.)

The book *Modern Archives,* according to Dr. Schellenberg's *Preface,* is a by-product of lectures given by him in Australia a few years ago as a Fulbright lecturer. The influence of Australian methods is evidenced not only by H. L. White, Commonwealth Librarian of Australia, who writes the *Foreword,* but also in Dr. Schellenberg's policy of giving over the first part of the book or "Introduction" to a discussion of archival institutions in general. It appears that Australian archives have a closer relation to libraries than in the United States. Thus, Dr. Schellenberg gives considerable time to help readers "understand" the relation of practices followed in managing public records for current use to those followed in an archival

institution" (p. x) and to the relations of archives and libraries. Part II discusses record management and Part III archival management. *Modern Archives* is compact and the records, or more specifically, the archives of any branch of government, are treated only to illustrate the general discussion. The index is not complete. For instance, although the word "agriculture" is omitted in the index, yet on pages 156 to 158 various typical New Deal agricultural program records are used to illustrate the principles used in retaining or discarding records at the National Archives at Washington, D.C.

Research workers of agricultural history have special interest in Chapter 17's discussion of restrictions placed upon the use of specific archival records. It would appear difficult to apply to research of United States Department of Agriculture records any very close coordination of library and archives. The Library of Congress, the Department of Agriculture's own library, and the reference service of The National Archives are at different buildings.

Freeland T. Penney
West Hempstead, N.Y.

In Support of Clio: Essays in Memory of Herbert A. Kellar. Edited by WILLIAM B. HESSELTINE AND DONALD R. MCNEIL. (Madison, State Historical Society of Wisconsin, 1958, x, 214 pp., $5.00.)

The life of Herbert A. Kellar, a past president of the Agricultural History Society and for many years director of the McCormick Historical Society, inspired this collection of essays. The selections "are not about Herbert Kellar's career." Rather, his devotion to history suggested the essays which "are ascribed to his memory."

There are nine such essays, each dealing with a different aspect of historical research and method. They include broad topics such as "Manuscript Collecting" by Lucile M. Kane and "Historical Organizations as Aids to History" by David D. Van Tassel and James A. Tinsley; also presented are more narrow subjects such as "The W.P.A. Historical Records Survey" by David L. Smiley. Wayne D. Rasmussen, drawing on his long association with the Agricultural History Society and with the late Everett E. Edwards, contributed "The Growth of Agricultural History."

Rasmussen traces the evolution of interest in agricultural history from the classes of Frederick Jackson Turner, Richard T. Ely and William A. Scott at Wisconsin. Henry C. Taylor and B. H. Hibbard each wrote important pioneering studies under the influence of those Wisconsin professors. Taylor succeeded in inaugurating formal history work in the Department of Agriculture around 1912, a work carried out by Taylor, O. E. Baker, O. C. Stine and other competent scholars.

In 1919, a group of historians founded the Agricultural History Society. Herbert A. Kellar from the start gave his whole-hearted support to the organization. He was its vice-president from 1921 to 1922, president from 1922 to 1924 and secretary-treasurer from 1924 to 1927. After the Society began publishing its journal in 1927, Kellar became a member of the first editorial board; he continued in this capacity from 1928 to his death in 1955.

Rasmussen's essay also contains a brief but highly selective bibliography. In the eight pages devoted to bibliography, he discusses the primary important books in the various phases of agricultural history. The bibliography should be highly useful to non-specialists.

The achievement and outlook for agricultural history, according to Rasmussen, is best presented in the concluding paragraph of the essay:

> The achievements include the definition and recognition of agricultural history as a field of study, the establishment of historical research as an activity of the U. S. Department of Agriculture, the founding of the Agricultural History Society and its establishment of Agricultural History, the organization of courses in agricultural history in educational institutions, and the publication of many distinguished and useful studies. The list of remaining opportunity is even more impressive. Some areas, such as land policy, the western livestock industry, and agriculture in the ante bellum South have, for various reasons, received more attention than others, yet the research possibilities have not been exhausted even in those areas. Other areas, such as some of our major staple agricultural products and agricultural marketing, are virtually untouched. Still other areas have been explored by workers in other disciplines, but they still need the perspective and technique of the historian. Agriculture offers the historian many rich and virgin fields in which to plough.

C. Clyde Jones
University of Illinois

Notes and Comments

APRIL 1959 MEETINGS

The Mississippi Valley Historical Association will hold its fifty-second annual meeting at the Cosmopolitan Hotel, Denver, Colorado, April 23–25, 1959. The Agricultural History Society is sponsoring two meetings: one session is scheduled at 2:30 p.m., April 23 and a luncheon meeting has been arranged for 12:30 p.m. on April 24. See the inside front cover for details.

DECEMBER 1958 LUNCHEON

The Agricultural History Society sponsored a luncheon on December 30, 1958, in Washington, D. C., in connection with the annual meeting of the American Historical Association. Over 40 persons attended the luncheon, while many more than that came in to listen to the address. The speaker, who was introduced by Harry J. Carman of Columbia University, was Rexford G. Tugwell. During his long career as a professor and government administrator, Mr. Tugwell served as Under Secretary of Agriculture and Administrator of the Resettlement Administration. The subject of his address was "The Resettlement Idea." At the conclusion of his stimulating address, in which Mr. Tugwell drew lessons for future administrators of new programs from the failure of the Resettlement Administration, the speaker answered questions from the audience. The session, arranged by Paul W. Gates of Cornell University, was considered one of the most successful held with the American Historical Association in recent years.

The History of Science Society announces the Ida and Henry Schuman Prize of $250.00 for an original essay in the history of science and its cultural influences. The competition is open to undergraduate and graduate students in any American or Canadian college. Papers submitted for the prize should be approximately 5,000 words in length and thoroughly documented. Entries and inquiries should be addressed to Professor A. H. Dupree, Department of History, University of California, Berkeley 4, California. To be eligible for consideration, papers must be received on or before July 1, 1959.

A new abstracting journal, sponsored by the Council on Economic and Cultural Affairs, Inc., and published by the International Association of Agricultural Librarians and Documentalists in co-operation with the International Conference of Agricultural Economists, made its appearance late in 1958. A preliminary issue indicates that *World Agricultural Economics and Rural Sociology Abstracts* will be of great interest and benefit to agricultural historians. A special chapter is devoted to agricultural history and many of the other parts of the comprehensive undertaking will appeal to historians. The new publication is planned as a quarterly and will appear regularly beginning in April, 1959.

There are a number of excellent agricultural abstracting services already in existence, notably in Great Britain; but no attempt has thus far been made to integrate into a single service the abstracting of literature in all of the economic and social aspects of agriculture. The service views agricultural economics and rural sociology in the broadest sense; subjects listed include governmental policy, land reform, land economics, farm management, marketing, credit, co-operation, agricultural history, geography, agricultural education and extension work.

The journal is printed and published in the Netherlands. Subscriptions ($12.00 per year) should be sent to the North-Holland Publishing Company, Amsterdam. The editor is Dr. Sigmund v. Frauendorfer, Hochschule für Bodenkultur, Vienna, Austria.

Arizona and the West, a new historical quarterly, will make its bow in the spring of 1959. It will be devoted specifically to the history of Arizona from earliest times to the present, but it will also include material on the West at large. In addition to articles, original documents, and book reviews, a series of critical essays is promised on specific phases of state and regional history. The

University of Arizona is the publisher, and John Alexander Carroll of its history faculty is the editor. Professor Carroll "will welcome material . . . from all those who cherish the heritage of the West and have something to say that will interest others."

The Institute of Early American History and Culture has announced that one of its post-doctoral fellowships will be available beginning in the summer of 1959; the appointment is for a three-year term at a stipend of $5,000 per year. Inquiries should be addressed to the Director, the Institute of Early American History and Culture, Box 1298, Williamsburg, Virginia.

A Guide to Photocopied Historical Materials in the United States and Canada is being prepared by the American Historical Association under a grant from the Council on Library Resources, Inc. The *Guide* will be a desk reference book that will tell where to find important bodies of microfilmed and other photocopied materials and how to procure and use them. Anticipated publication date is late in 1959.

JOHN C. McKINNON, 1903–1959

John C. McKinnon, associate professor and head of the Colorado State University history and political science department, died on January 2, 1959. He was born in 1903 at Port Elgin, Ontario, Canada. He graduated from the University of Des Moines in 1925 with an A.B. degree in history. He received his Master's degree from the University of North Dakota in 1934 and did additional graduate work at North Dakota in 1943 and at Stanford in 1953. In 1952 he published a technical paper on "Contributions of the Poudre Valley to Irrigation Practice" and in 1953 another paper, "A. A. Edwards, Pioneer Irrigation Administrator." Professor McKinnon was a member of our Society and had taught a course in agricultural history at Colorado State University.

Recent Articles of Interest

Compiled by GERTRUDE A. SLICHTER

Agricultural History Review—vol. VI, 1958, Part II: "Agriculture in Roman Britain," by Shimon Applebaum; "The East Anglian Foldcourse: Some Queries," by Alan Simpson; "The Lost Village and the Landscape of the Yorkshire Wolds," by Alan Harris.

The American Slavic and East European Review—December, 1958: "The Demise of the Machine Tractor Station," by Roy D. Laird.

The Arkansas Historical Quarterly—Winter, 1958: "Migration into Arkansas, 1820–1880: Incentives and Means of Travel," by Robert B. Walz.

English Historical Review—January, 1959: "The Old Board of Agriculture (1793–1822)," by Rosalind Mitchison.

Geographical Journal—December, 1958: "The Geographical Study of Agricultural Land Use," by Academician I. P. Gerasimov.

Idaho Yesterdays—Spring, 1958: "Water for the West," by R. J. Newell.

Iowa Journal of History—January, 1959: "The Burlington Railroad's Swine Sanitation Trains of 1929: A Case Study in Agricultural Development," by C. Clyde Jones.

The Journal of Mississippi History—October, 1958: "The Lumber Industry in South Mississippi, 1890–1915," by Nollie W. Hickman.

Journal of Southern History—February, 1959: "Farmers' Institutes in Louisiana, 1897–1906," by Roy V. Scott.

The Kansas Historical Quarterly — Autumn, 1958: "The Mudge Ranch, Hodgeman County," by Margaret Evans Caldwell.

Mississippi Valley Historical Review — December, 1958: "The Wheat Trade between California and the United Kingdom," by Rodman W. Paul; "The Promise of Land for the Freedman," by LaWanda Cox.

Nebraska History — December, 1958: "The Role of the Cattle Trails," by Wayne Gard.

New Mexico Historical Review — October, 1958: "George Curry and the Politics of Forest Conservation in New Mexico," by Elmo R. Richardson.

North Dakota History — October, 1958: "Theodore Roosevelt's Conservation Policies and the Impact upon America and the American West," by E. C. Blackorby.

Pacific Historical Review—November, 1958: "The Great California Grain War: the Grangers Challenge the Wheat King," by Rodman Wilson Paul; "Sheep Grazing in the Cascade Range: John Minto *vs.* John Muir," by Lawrence Rakestraw.

Pacific Northwest Quarterly—October, 1958: "Geographical Setting for the Recent History of the Inland Empire," Herman J. Deutsch.

Southwestern Historical Quarterly—January, 1959: "Parker County Cattle Trails," by Fred R. Cotten.

University of Birmingham Historical Journal —"Corn Milling and the Industrial Revolution in England in the Eighteenth Century," by R. A. Pelham.

Activities of Members

David Brandenburg of American University is on sabbatical leave and will be doing research in France for a year.

Karl Brandt of the Food Research Institute, Stanford University, is serving on the President's Council of Economic Advisers in Washington, D.C.

Harold C. M. Case of the University of Illinois recently received the D. Howard Doane Award for outstanding service in the field of farm management and rural appraisal.

Edward Everett Dale, research professor emeritus at the University of Oklahoma, has been appointed Professor of History at the University of Houston.

William D. Hoyt of Loyola College, Baltimore has been appointed associate professor of history at Merrimack College.

Ted Hutchcroft, formerly with the Office of Information, U. S. Department of Agriculture, has joined the staff of the National 4-H Club Foundation.

C. Clyde Jones is the author of "The Burlington Railroad's Swine Sanitation Trains of 1929," in *Iowa Journal of History*, 57: 23-33 (January, 1959).

Eugene N. Lerner, formerly with the Federal Reserve Bank of Chicago, has been appointed assistant professor of finance in the School of Business, Northwestern University.

George A. Pond is co-author with Truman R. Nodland of "The Changing Picture of Farming in Southeastern Minnesota," Bulletin 446 of the Minnesota Agricultural Experiment Station. It was issued in January, 1958.

William Rogers discusses "The Alabama State Fair, 1865-1900," in *Alabama Review*, April, 1958.

John T. Schlebecker of Iowa State College has received a grant from the American Philosophical Society to study the cattle industry of the Great Plains in the twentieth century.

Roy V. Scott, of Southwestern Louisiana Institute, has been granted leave of absence for research with the Business History Foundation, Inc.

Richard B. Sheridan, Department of Economics, University of Kansas, has returned to Lawrence from a year's sabbatical leave in England.

Anne Dewees Taylor, author of "A Bibliographic Guide to the Writings of Henry C. Taylor," published as a supplement to the July, 1958, issue of *Agricultural History*, died at Deland, Florida, on January 29, 1959.

Robert L. Tontz has been appointed chief of the Trade Statistics Branch of the Foreign Agricultural Service, U. S. Department of Agriculture.

The death of David M. Warren, life member of the Agricultural History Society, is reported in the January 1959 issue of the Southwestern Historical Quarterly. A memorial service was held on January 23, 1959.

The Authors

REINHOLD A. DORWART is professor of history at the University of Connecticut. He is author of *The Administrative Reforms of Frederick William I of Prussia.*

WALTER H. EBLING is assistant professor of agricultural economics at the University of Wisconsin where he teaches part-time. His main work has been as Director of the Federal-State Crop Reporting Service for the U. S. Department of Agriculture in his state.

DAVID HERLIHY is assistant professor of history at Bryn Mawr College, Bryn Mawr, Pennsylvania. He has recently written a book on Italian economic history—*Pisa in the Early Renaissance* (New Haven, 1958).

CARROLL W. PURSELL, JR. was formerly an Eleutherian Mills-Hagley Fellow at the University of Delaware and is now a graduate student in history at the University of California (Berkeley).

MORTON ROTHSTEIN is an instructor in history at the University of Delaware and is completing his doctoral dissertation for Cornell University. The subject of his dissertation is "American Wheat and the British Market, 1870–1905."

JOURNAL OF FARM ECONOMICS

Published by THE AMERICAN FARM ECONOMIC ASSOCIATION

Editor: ROBERT L. CLODIUS

University of Wisconsin, Madison, Wisconsin

VOLUME 41 FEBRUARY, 1959 NUMBER 1

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This Journal contains additional articles, notes, book reviews, and announcement of new bulletins in agricultural economics and is published in February, May, August, November and December. Yearly subscription is $9.00.

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Department of Agricultural Economics

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